

Transportation Impact Analysis for  
Stallings Farms  
Stallings, North Carolina

Prepared for:

Town of Stallings  
Stallings, North Carolina

Prepared by:

Kimley-Horn and Associates, Inc.  
NC License #F-0102  
200 South Tryon Street, Suite 200  
Charlotte, North Carolina 28202  
(704) 333-5131

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018273010



*Laura N. Reid*  
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## 1.0 Executive Summary

The purpose of this Transportation Impact Analysis (TIA) is to evaluate the impacts on the surrounding transportation infrastructure as a result of the proposed Stallings Farms development. The objectives of the study are:

- To estimate trip generation and distribution for the proposed development.
- To perform vehicular, pedestrian, and bicycle operations analyses for each of the identified study intersections.
- To determine the potential transportation impacts of the proposed development.
- To identify improvements to mitigate the proposed developments transportation impacts.

The proposed Stallings Farms development is located on the south side of Stevens Mill Road on either side of Stallings Road in Stallings, North Carolina. The ±83-acre site is currently undeveloped and zoned MU-1. The site is located within a Town Small Area Plan and will not be rezoned as a part of this development. Based on the site plan provided by the applicant, the proposed development is currently envisioned to include up to 222 single family homes. The overall site density did not meet North Carolina Department of Transportation's (NCDOT's) TIA threshold; however, it should be noted that coordination also occurred with NCDOT staff in review of the assumptions and methodology documented in this TIA.

For the purposes of this TIA, the development is assumed to be completed (built-out) in 2027. Based on the provided site plan, the development proposes three access points, as outlined below.

- Access #1 – A full movement, unsignalized driveway connection to Stallings Road approximately 850 feet south of Stevens Mill Road
- Access #2 – A full movement, unsignalized driveway connection to Oakspring Road approximately 600 feet south of Stevens Mill Road
- Access #3 – A full movement, unsignalized driveway connection to Sweet Birch Drive approximately 850 feet east of Stallings Road

A TIA scoping meeting was held with the Town of Stallings and representatives of the applicant in Stallings in March 2020, to obtain background information and to ascertain the scope and parameters to be included in this TIA. A TIA Memorandum of Understanding (MOU) was developed based on discussions from this meeting that documented all scoping parameters to be used for the TIA and was reviewed and agreed upon by the Town of Stallings, NCDOT, and the applicant. The approved MOU is included in the **Appendix**.

The following AM and PM peak-hour scenarios were analyzed to determine the proposed development's transportation impacts on the surrounding network:

- 2020 Existing Conditions
- 2027 Background Conditions
- 2027 Build Conditions
- 2032 Build Conditions +5 years

Based on coordination at the TIA scoping meeting, this TIA evaluates the vehicular, pedestrian, and bicycle operations under each of the AM and PM peak-hour scenarios above for the following study area intersections:

1. Stallings Road and Stevens Mill Road
2. Stallings Road and Sweet Birch Drive
3. Sweet Birch Drive and Nouvelle Drive
4. Stallings Road and Monroe Expressway WB Ramp
5. Stallings Road and Monroe Expressway EB Ramp
6. Stallings Road and Matthews-Indian Trail Road
7. Stevens Mill Road and Mt. Harmony Church Road
8. Stevens Mill Road and Oakspring Road
9. Stallings Road and Access #1
10. Oakspring Road and Access #2
11. Sweet Birch Drive and Access #3

Note the following modifications from the background data collected were applied to the capacity analyses to meet NCDOT Congestion Management Capacity Analysis Guidelines:

- Right-turn-on-red (RTOR) operations were not allowed.
- Protected-only left-turn phasing was used for analysis of future operations where protected/permitted left-turn phasing exists.
- Lost time adjust was added to the yellow and all-red times provided in the existing signal plans to maintain a total lost time of 5 seconds for each movement.
- A minimum of 4 vehicles per hour were used for permissible movements, excluding movements into and out of the proposed site.

Kimley-Horn was retained to determine the potential transportation impacts of this development (in accordance with the traffic study guidelines in the *NCDOT Policy on Street and Driveway Access to North Carolina Highways* and set forth by the Town of Stallings *TIA Ordinance*) and to identify transportation improvements that may be required to accommodate these impacts. This report presents trip generation, distribution, vehicular and multimodal analyses, crash analyses, and identified transportation improvements required to mitigate anticipated transportation demands produced by the subject development.

Based on vehicular, pedestrian, and bicycle operations analyses performed at each of the identified study intersections, along with the review of the auxiliary turn-lane warrants and crash analyses contained herein, the following improvements are identified to mitigate the impact of the proposed development on the surrounding transportation infrastructure:

#### **Stallings Road and Stevens Mill Road**

- Construction of a westbound left-turn lane with 250 feet of storage

#### **Stallings Road and Sweet Birch Drive**

- Construction of a westbound right-turn lane with 100 feet of storage

#### **Stevens Mill Road and Oakspring Road**

- Construction of an eastbound right-turn lane with 100 feet of storage

#### **Stallings Road and Access #1**

- Construction of a northbound left-turn with 100 feet of storage
- Construction of a northbound right-turn with 100 feet of storage
- Construction of a southbound left-turn with 100 feet of storage
- Construction of a single lane ingress/egress on the westbound approach with an internal protected stem of 100 feet

- Construction of a single lane ingress/egress on the eastbound approach with an internal protected stem of 100 feet

#### **Oakspring Road and Access #2**

- Construction of a single lane ingress/egress on the eastbound approach with an internal protected stem of 100 feet
- Construction of a northbound left-turn lane with 100 feet of storage

#### **Sweet Birch Drive and Access #3**

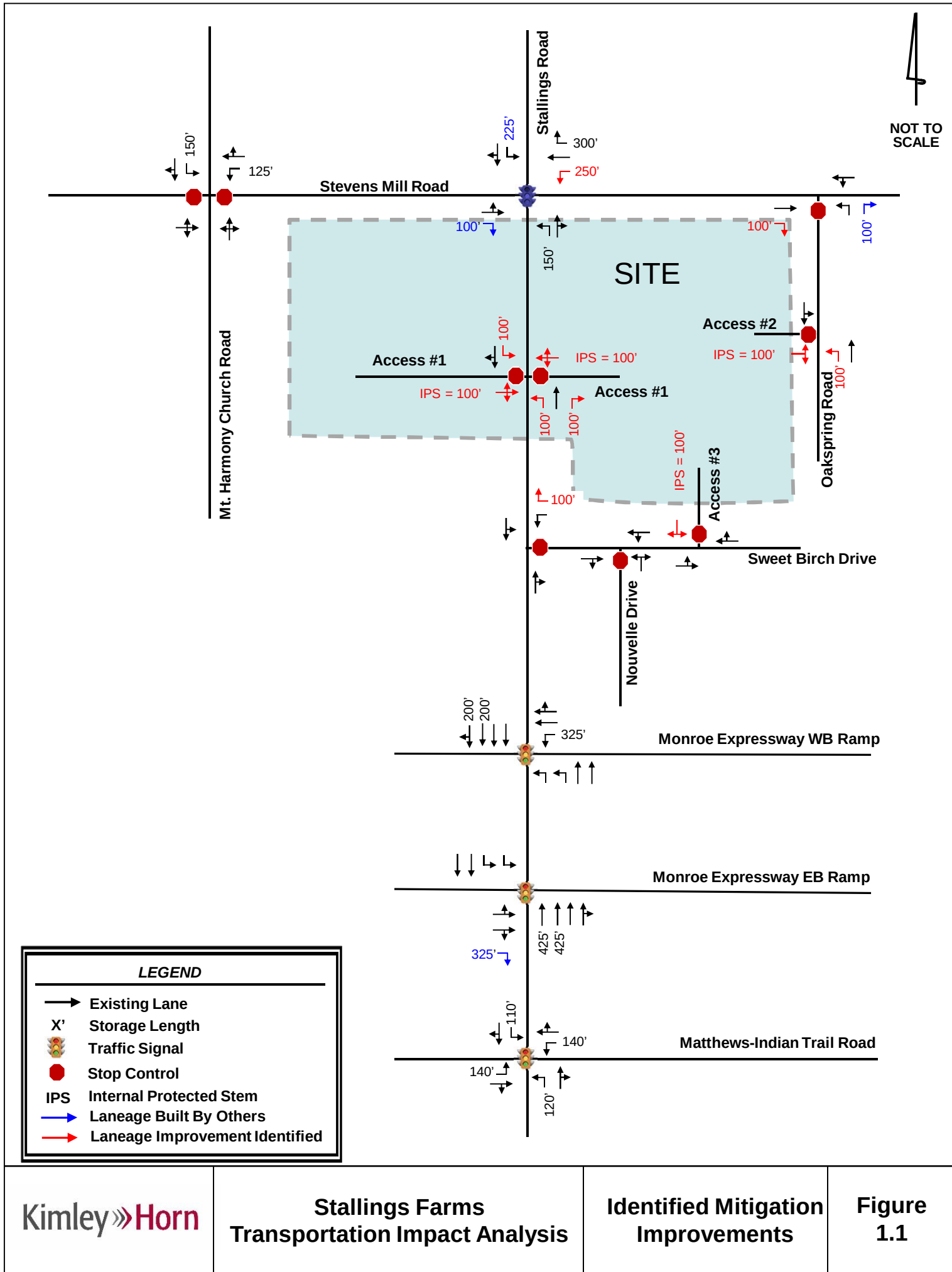
- Construction of a single lane ingress/egress on the southbound approach with an internal protected stem of 100 feet

#### **Study Area Pedestrian and Bicycle Improvements**

- Construction of a sidewalk along the frontage of the proposed site
- Construct the portion of the Carolina Thread Trail planned within the proposed site
  - These are referred to as North Fork Crooked Creek Greenway West, Sweet Birch Connector, and North Fork Neighborhood Connector in the Connect Stallings Recreation & Greenway Master Plan
  - Final alignments should be coordinated with Town staff through the site planning process

The mitigation improvements identified within the study area are shown in **Figure 1.1**. The improvements shown on this figure are subject to approval by NCDOT and the Town of Stallings. All additions and attachments to the State and Town roadway system shall be properly permitted, designed and constructed in conformance to standards maintained by the agencies.

Per NCDOT and the Town, this development will be able to plat, build, and sell up to 50 lots without construction of any roadway improvements. In order to plat, build, or sell the 51<sup>st</sup> lot, the development must install all the required roadway improvements in order to accommodate the additional traffic the site will generate.



## 2.0 Introduction

The proposed Stallings Farms development is located on the south side of Stevens Mill Road on either side of Stallings Road in Stallings, North Carolina. The ±83-acre site is currently undeveloped and zoned MU-1. The site is located within a Town Small Area Plan and will not be rezoned as a part of this development. Based on the site plan provided by the applicant, the proposed development is currently envisioned to include up to 222 single family homes. The overall site density did not meet North Carolina Department of Transportation's (NCDOT's) TIA threshold; however, it should be noted that coordination also occurred with NCDOT staff in review of the assumptions and methodology documented in this TIA.

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Kimley-Horn was retained to determine the potential transportation impacts of this development (in accordance with the traffic study guidelines in the *NCDOT Policy on Street and Driveway Access to North Carolina Highways* and set forth by the Town of Stallings *TIA Ordinance*) and to identify transportation improvements that may be required to accommodate these impacts. This report presents trip generation, distribution, vehicular and multimodal analyses, crash analyses, and identified transportation improvements required to mitigate anticipated transportation demands produced by the subject development.

### 3.0 Existing Traffic Conditions

Existing traffic conditions were coordinated with Town of Stallings and NCDOT staff and collected through field observations and historic turning-movement counts to establish the existing conditions baseline analysis.

#### 3.1 STUDY AREA

Based on coordination with the Town, NCDOT, and the applicant, the study area for this TIA includes the following intersections:

1. Stallings Road and Stevens Mill Road
2. Stallings Road and Sweet Birch Drive
3. Sweet Birch Drive and Nouvelle Drive
4. Stallings Road and Monroe Expressway WB Ramp
5. Stallings Road and Monroe Expressway EB Ramp
6. Stallings Road and Matthews-Indian Trail Road
7. Stevens Mill Road and Mt. Harmony Church Road
8. Stevens Mill Road and Oakspring Road
9. Stallings Road and Access #1
10. Oakspring Road and Access #2
11. Sweet Birch Drive and Access #3

**Figure 3.1** shows the study area intersections and the site location, **Figure 3.2** shows the proposed site plan for the development as provided by the applicant, and **Figure 3.3** shows the existing roadway geometry at the study intersections. A full-sized site plan to scale is provided in the **Appendix**.

The primary roadways in the vicinity of the site are US 74/Monroe Expressway, Stallings Road, Stevens Mill Road, Matthews-Indian Trail Road, Mt. Harmony Church Road, and Oakspring Road. **Table 3.1** shows facility type, 2018 NCDOT average daily traffic (ADT) volumes in vehicles per day (vpd), and speed limits, based on the NCDOT Speed Limits Map, for these study area roadways.

| Table 3.1<br>Study Area Roadways |                  |                                                          |               |
|----------------------------------|------------------|----------------------------------------------------------|---------------|
| Roadway                          | Facility type    | ADT                                                      | Speed Limit   |
| US 74/ Monroe Expressway         | 6-lane divided   | 72,500 W of Stallings Road<br>58,500 E of Stallings Road | 45 mph        |
| Stallings Road                   | 2-lane undivided | 12,500 S of US 74<br>6,400 N of US 74                    | 45/35 mph     |
| Stevens Mill Road                | 2-lane undivided | 2,900 W of Stallings Road<br>8,400 E of Stallings Road   | 45 mph/35 mph |
| Matthews-Indian Trail Road       | 2-lane undivided | 5,200 W of Indian Trail Road (2016)                      | 45/25 mph     |
| Mt. Harmony Church Road          | 2-lane undivided | 1,500 N of Stevens Mill Road (2016)                      | 35 mph        |
| Oakspring Road                   | 2-lane undivided | N/A                                                      | 35 mph        |

US 74/Monroe Expressway is a six-lane divided roadway and is classified by NCDOT as a principal arterial with a posted speed limit of 45 miles per hour (mph). US 74 has a NCDOT 2018 ADT volume of 72,500 vpd west of Stallings Road and 58,500 vpd east of Stallings Road. Given

that this is a US route with control of access, there are no sidewalks and bike lanes along the roadway in the project vicinity.

Stallings Road is a two-lane undivided roadway and is classified by NCDOT as a minor collector. Stallings Road has a posted speed limit of 45 mph north of US 74 and a posted speed limit of 35 mph south of US 74. There is sidewalk on the east side of the roadway between US 74 and Gribble Road. No bike lanes are present on the roadway in the project vicinity. Stallings Road has a 2018 NCDOT ADT volume of 12,500 vpd south of US 74 and 6,400 vpd north of US 74.

Stevens Mill Road Road is a two-lane undivided NCDOT major collector with a posted speed limit of 45 mph within the Town of Stallings and 35 mph in the vicinity of Mt. Harmony Church Road, and a NCDOT 2018 ADT volume of 8,400 vpd east of Stallings Road and 2,900 vpd west of Stallings Road. There is sidewalk along the south side of the roadway east of Stallings Road and no bicycle lanes near the project vicinity. There is also a sidewalk along the north side of the roadway along the frontage of the Matthews Charter Academy.

Matthews-Indian Trail Road is a two-lane undivided local roadway with a posted speed limit of 45 mph in the vicinity of Stallings Road. Matthews-Indian Trail Road has a NCDOT 2016 ADT volume of 5,200 vpd east of Stallings Road. There are no sidewalks or bike lanes along the roadway in the project vicinity.

Mt. Harmony Church Road is a two-lane undivided local roadway with a posted speed limit of 35 mph in the vicinity of Stevens Mill Road. Mt. Harmony Church Road has a NCDOT 2016 ADT volume of 1,500 vpd north of Stevens Mill Road and I-485. There is sidewalk along the east side of Mt. Harmony Church Road between Stevens Mill Road and the Matthews Charter Academy driveway.

Oakspring Road is a two-lane undivided local roadway with a posted speed limit of 35 mph in the vicinity of Stevens Mill Road. There is no available NCDOT ADT data for this roadway. There are no sidewalks or bike lanes along the roadway in the project vicinity.



### 3.2 EXISTING TRAFFIC VOLUME DEVELOPMENT

At the time of the approved MOU in March 2020 (included in the **Appendix**) new peak-hour turning movement counts were planned to be collected for this TIA in accordance with the TIA Ordinance. However, due to COVID-19 and associated impacts to work and school schedules at the time of this TIA, new peak-hour turning movement counts may not be indicative of “typical” traffic operations. Existing traffic volumes were determined based on the alternative methodology outlined below.

As a part of a traffic study previously completed for a nearby development, peak-hour intersection turning-movement, heavy-vehicle, pedestrian, and bicycle counts were performed by Quality Counts from 6:00 AM to 9:00 AM and from 4:00 PM to 7:00 PM on Tuesday, February 5, 2019, at the following study intersections while local schools were in session:

- Stallings Road and Stevens Mill Road
- Stallings Road and Monroe Expressway WB Ramp
- Stallings Road and Monroe Expressway EB Ramp
- Stallings Road and Matthews-Indian Trail Road

Also as part of a TIA previously completed for a nearby development, peak-hour turning movement, heavy-vehicle, pedestrian, and bicycle counts were performed by Quality Counts from 6:00 AM to 9:00 AM and from 4:00 PM to 7:00 PM on Tuesday, September 10, 2019 at the following study intersections while local schools were in session:

- Stevens Mill Road and Mt. Harmony Church Road
- Stevens Mill Road and Oakspring Road

The 2019 peak-hour turning movement counts were grown by 3.5% to determine 2020 existing traffic volumes.

Historic peak-hour turning movement counts were not available at the following intersections:

- Stallings Road and Sweet Birch Drive
- Sweet Birch Drive and Nouvelle Drive

To determine existing traffic volumes at these intersections, trip generation rates published in *Trip Generation* (Institute of Transportation Engineers, 10th Edition) were used to calculate traffic volumes entering and exiting the existing residential development. Trip generation was performed for 99 homes on Sweet Birch Drive and 8 homes on Nouvelle Drive, as shown in the figure to the right. Calculated trips were then assigned as turning movements at both intersections based on existing ADTS. Through movements along Stallings Road were calculated based on traffic volumes at Stallings Road and Stevens Mill Road. Hand calculations of these volumes can be found in the **Appendix**.



The peak hour at each intersection was used in the capacity analysis documented herein. Three of the six intersections had an AM peak hour between 7:30-8:30 AM and all intersections with the exception of Stevens Mill Road and Mt. Harmony Church Road had a PM peak hour between 5:00-6:00 PM. The peak hours for each of the intersections are shown in **Table 3.2**.

*Stallings Farms*

*Transportation Impact Analysis*

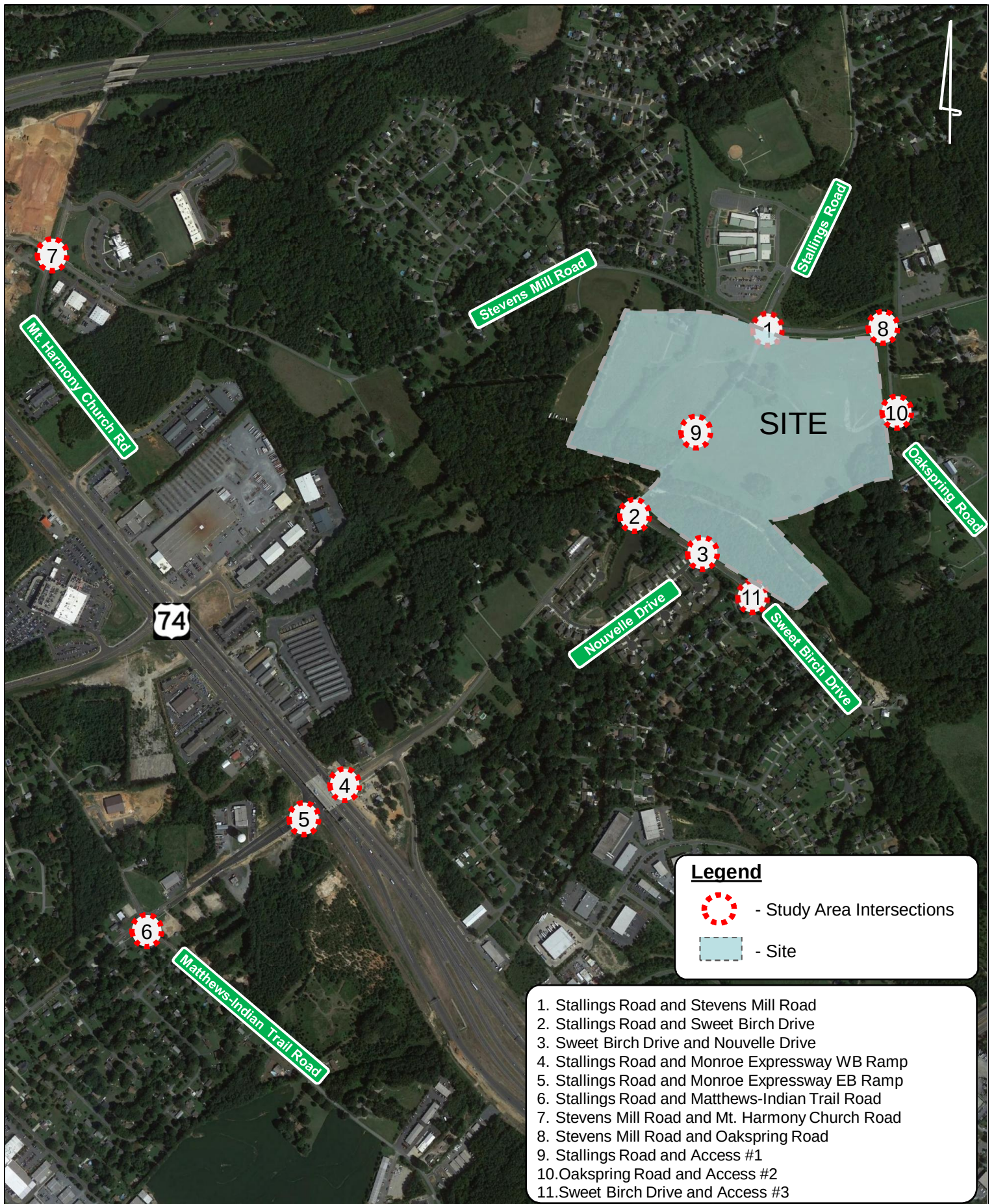


| Table 3.2 – AM & PM Intersection Peak Hours   |              |              |
|-----------------------------------------------|--------------|--------------|
| Intersection                                  | AM Peak Hour | PM Peak Hour |
| Stallings Road and Stevens Mill Road          | 7:15 - 8:15  | 5:00 - 6:00  |
| Stallings Road and Monroe Expressway WB Ramp  | 7:30 - 8:30  | 5:00 - 6:00  |
| Stallings Road and Monroe Expressway EB Ramp  | 7:30 - 8:30  | 5:00 - 6:00  |
| Stallings Road and Matthews-Indian Trail Road | 7:30 - 8:30  | 5:00 - 6:00  |
| Stevens Mill Road and Mt. Harmony Church Road | 7:00 - 8:00  | 4:30 - 5:30  |
| Stevens Mill Road and Oakspring Road          | 7:15 - 8:15  | 5:00 - 6:00  |

Volume balancing was performed along Stallings Road between the Monroe Expressway WB Ramp and the Monroe Expressway EB Ramp and between Stevens Mill Road and Sweet Birch Drive (as outlined above). No volume balancing was performed between the other study area intersections due to the presence of multiple commercial and residential driveways, spacing between each of the study intersections, and the time between the count collection dates. Peak-hour intersection turning-movement count data is provided in the **Appendix**.

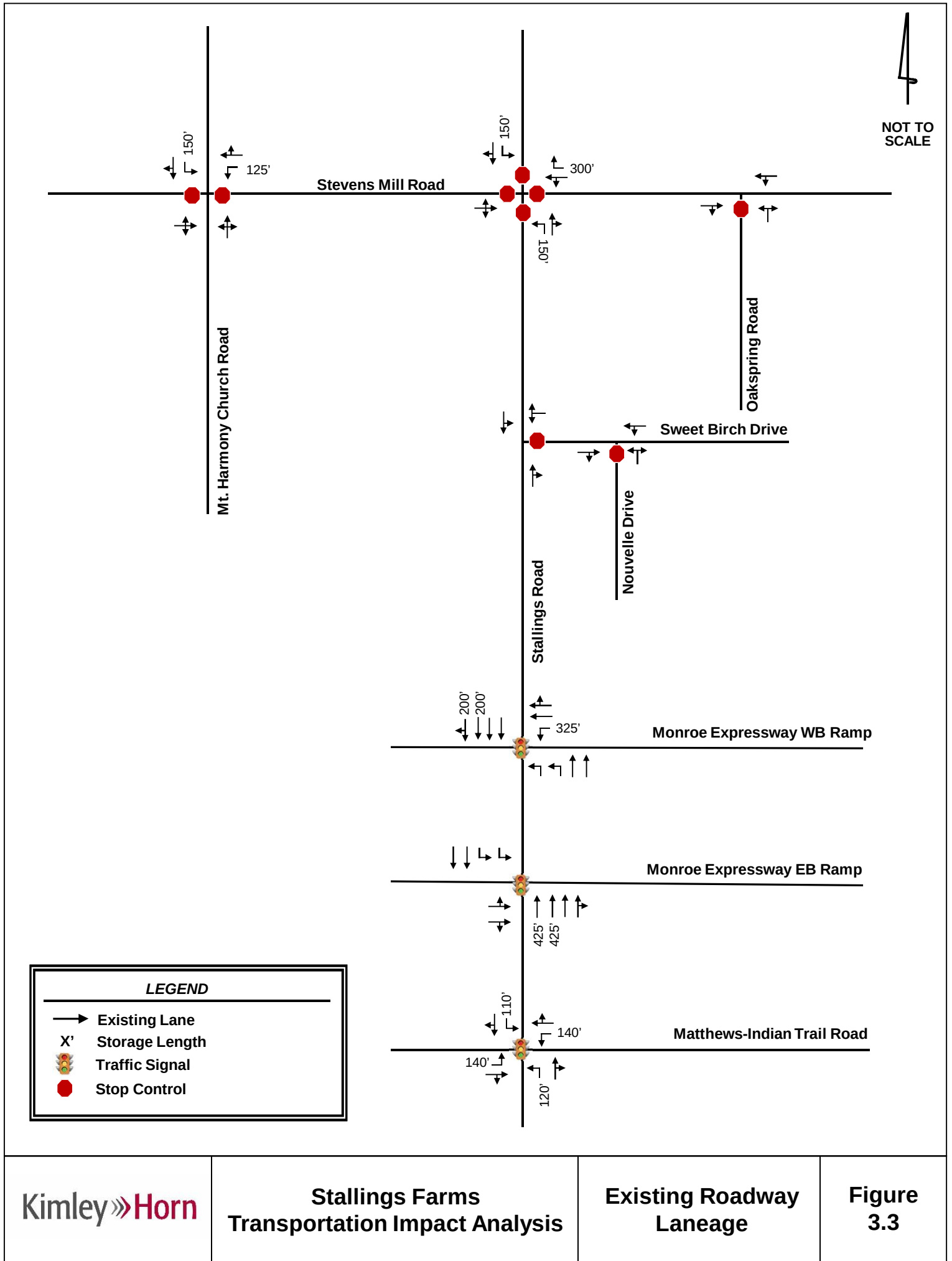
**Figure 3.4** shows the 2020 existing AM and PM peak-hour traffic volumes.

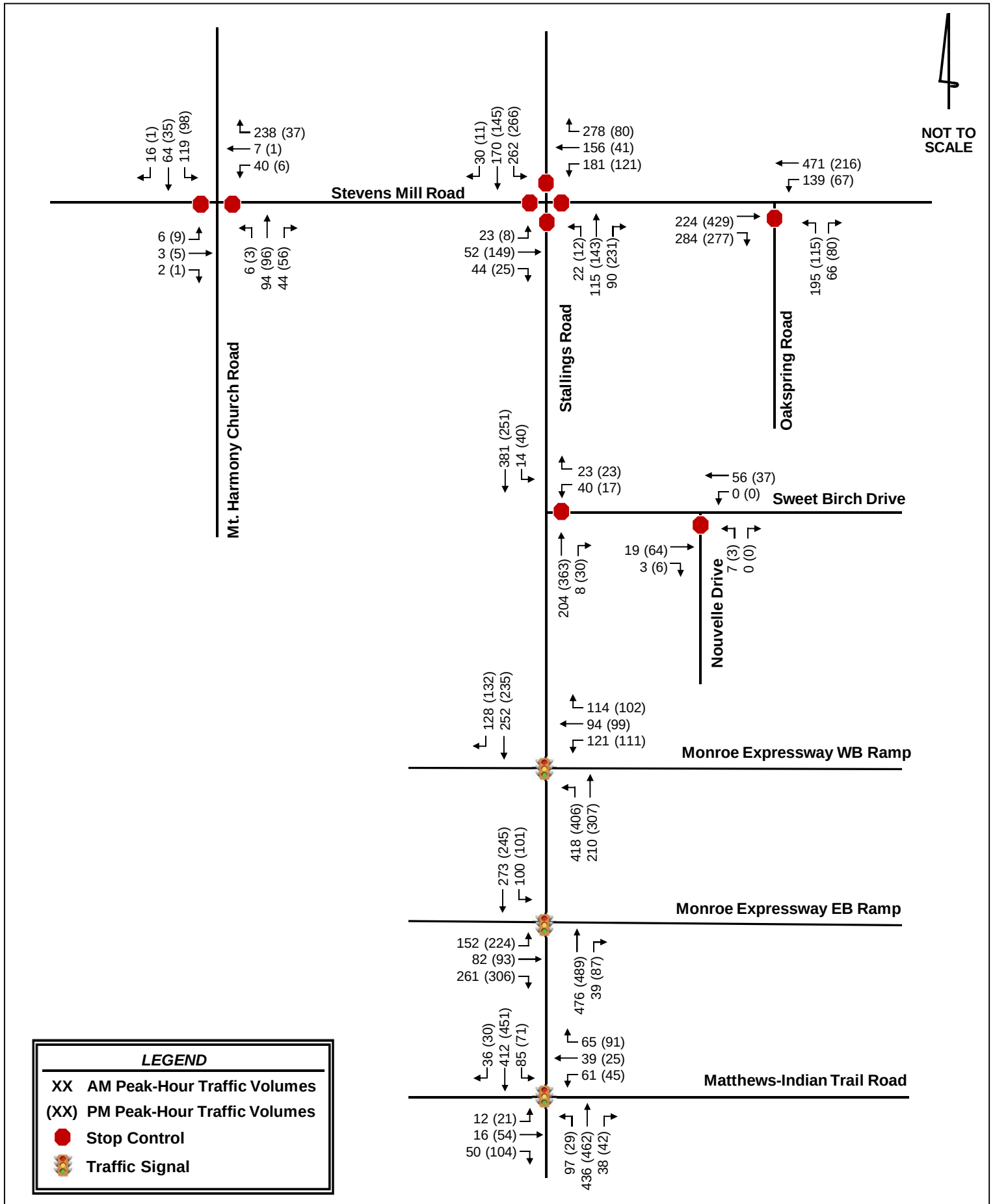






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## 4.0 Background Traffic Volume Development

Projected background (non-project) traffic is defined as the expected growth or change in traffic volumes on the surrounding roadway network between the year the existing counts were collected (2020) and the expected build-out years (2027, 2032), absent the construction and opening of the proposed project. This includes both non-specific general growth based on historical increase in local traffic volumes (historical background growth), along with specific growth and/or change in traffic volumes caused by future off-site developments that are not yet fully-constructed and/or planned transportation projects specifically identified within the vicinity of the proposed development.

### 4.1 HISTORICAL BACKGROUND GROWTH TRAFFIC

Historical background growth is the increase in existing traffic volumes due to usage increases and non-specific growth throughout the area, and accounts for growth that is independent of specific approved developments. Historical background growth traffic is calculated using an annual growth rate, which is applied to the existing traffic volumes up to the future horizon years. As shown in the approved TIA MOU, based on a review of historical ADT data available for study area roadways, a growth rate of 3.5% per year was applied to 2020 existing traffic volumes to calculate base 2027 and 2032 background traffic volumes. **Table 4.1** shows the data used to determine the 3.5% annual growth rate, which was approved by NCDOT staff, consistent with adjacent TIAs performed in the area.

| <b>Table 4.1 - Historical Growth</b> |       |      |                                      |
|--------------------------------------|-------|------|--------------------------------------|
| ADT Count Location                   | 2016  | 2010 | Growth Rate<br>(between 2016 & 2010) |
| Stallings Road (south of US 74)      | 11000 | 9400 | 2.7%                                 |
| Stallings Road (north of US 74)      | 5900  | 5100 | 2.5%                                 |
| Matthews-Indian Trail Rd             | 5200  | 3500 | 6.8%                                 |
| <b>AVERAGE</b>                       |       |      | <b>4.0%</b>                          |

## 4.2 FUTURE OFF-SITE DEVELOPMENT TRIPS

Based on input from Town of Stallings and NCDOT staff, the following five future off-site developments are expected to impact traffic volumes within the study area and are included in the background traffic volumes for this TIA.

**Table 4.2 – Future Off-Site Developments**

| Development                                            | Land Use/Intensity                                                                                                                             | % Build-out | TIA Included? | Required Improvements                                                                                                                                                                                                                        |
|--------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Atrium Stallings                                       | 160,000 SF Hospital<br>80,000 SF MOB<br>20,000 SF Retail<br>15,000 SF HTSD<br>5,000 SF Fast Food<br>300 Mid-Rise Apartments<br>150 Hotel Rooms | 0%          | Yes           | <b>Stallings Rd/Stevens Mill Rd</b> <ul style="list-style-type: none"> <li>EBR with 100' storage</li> </ul> <b>Stallings Rd/EB Ramp</b> <ul style="list-style-type: none"> <li>EBR with 325' storage</li> </ul>                              |
| Union Park Townhomes<br>(Stallings Road Townhomes TIA) | 217 Townhomes                                                                                                                                  | 0%          | Yes           | None                                                                                                                                                                                                                                         |
| Willows at Stallings                                   | 345 Mid-Rise Apartments                                                                                                                        | 0%          | Yes           | <b>Stallings Rd/Stevens Mill Rd</b> <ul style="list-style-type: none"> <li>Traffic signal</li> <li>Extend SBR to 225'</li> </ul> <b>Stevens Mill Rd/Oakspring Rd</b> <ul style="list-style-type: none"> <li>NBR with 100' storage</li> </ul> |
| Harmony Hills                                          | 123 Townhomes                                                                                                                                  | 0%          | No            | None                                                                                                                                                                                                                                         |
| Oakspring Development                                  | 174 Single Family Homes                                                                                                                        | 0%          | No            | None                                                                                                                                                                                                                                         |

Volumes for the approved developments were obtained from the following sources:

- Atrium Stallings TIA (Kimley-Horn, July 2019)
- Stallings Road Townhomes TIA (Kimley-Horn, December 2019)
- Willows at Stallings TIA (Kimley-Horn, December 2019)

A TIA was not performed for the Harmony Hills or Oakspring developments. Therefore, trip generation rates published in *Trip Generation* (Institute of Transportation Engineers, 10th Edition) were used to determine project trips for these sites and which were distributed throughout the study area based on the existing ADTs and turning movement counts. Future off-site development calculations can be found in the **Appendix**.

**Figure 4.1** and **Figure 4.2** show the 2027 background AM and PM peak-hour traffic volumes, respectively.



### 4.3 PLANNED TRANSPORTATION PROJECTS

Based on a review of the adopted transportation plans for the area, ten future transportation projects have been identified within the study area, two of which are currently funded through construction based on the current planning documents.

1. John Street/Old Monroe Road Widening (U-4714) – Funded (outside TIA study area)
2. Chestnut Lane Connector (U-5808) – Funded (outside TIA study area)
3. Connect Stallings Recreation and Greenway Master Plan
4. Enhanced Intersection at Stallings Road and Stevens Mill Road (C-5)
5. Enhanced Intersection at Stallings Road and US 74 (C-7)
6. Crossing at Stevens Mill Road and Whetstone Drive (C-15)
7. Crossing of Stallings Rd. at North Fork Creek (South branch) (C-18)
8. Stallings Rd., part 1 (4,700' sidewalk facilities) (S-5)
9. Stallings Rd., part 2 (2,100' sidewalk facilities) (S-9)
10. North Fork Trail (T-3)

Note that the eight unfunded projects (Project Numbers 3-10 above) were not included in the operations analyses discussed in Sections 6.0 and 8.0 since funding nor schedule have been identified.

There are two funded NCDOT roadway projects near the identified study area:

- John Street/Old Monroe Road Widening (U-4714) – *Outside TIA study area*
  - Widen to multi-lanes from Trade Street to Wesley Chapel-Stouts Road (superstreet on some locations)
  - Right-of-way in fiscal year (FY) 2020-2021
  - Construction in FY 2022-2025
- Chestnut Lane Connector (U-5808) – *Outside TIA study area*
  - Construct new roadway from Matthews-Indian Trail Road to Gribble Road
  - Right-of-way in FY 2020
  - Construction in FY 2021-2023

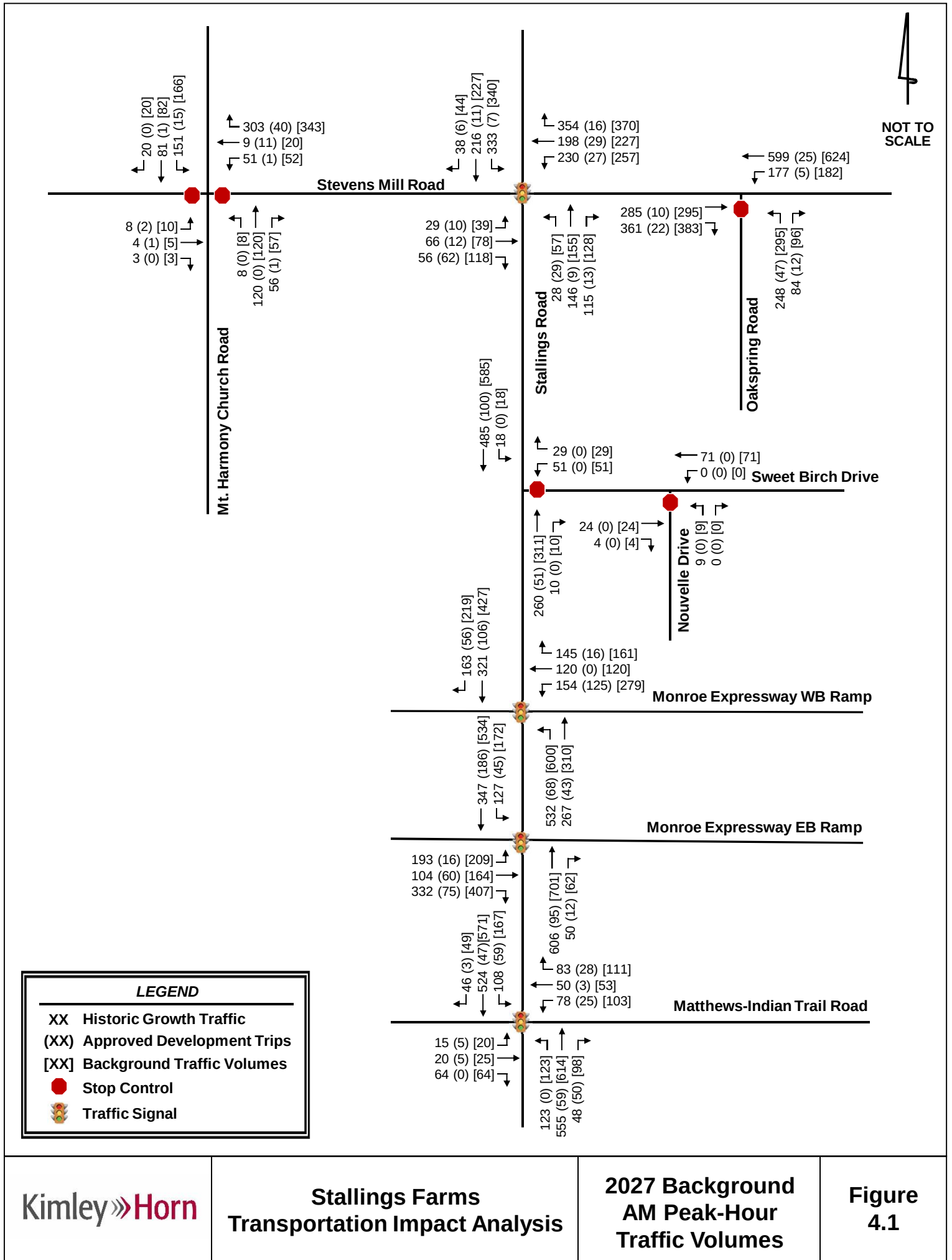
Project right-of-way and construction dates are based on the September 2020 NCDOT State Transportation Improvement Program (STIP) and are subject to change. These projects fall outside the TIA study area and were therefore not included in future year analysis.

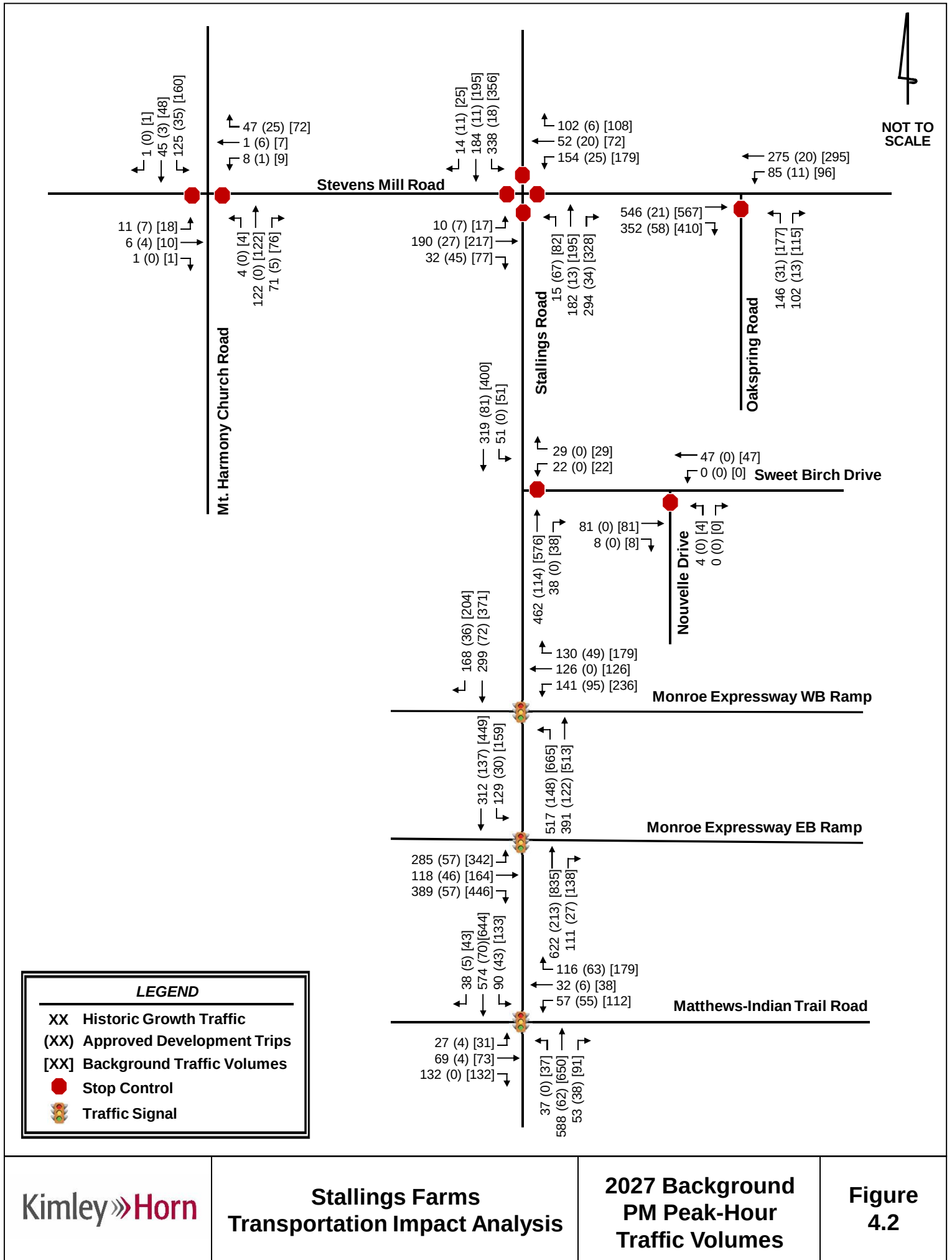
The following projects have been identified, but are unfunded within the identified study area:

- Connect Stallings Recreation and Greenway Master Plan
  - Central Spine Loop Trail (CS1)
  - Sweet Birch Connector (C4)
  - North Fork Neighborhood Connector (C5)
- Enhanced Intersection at Stallings Road and Stevens Mill Road (C-5)
  - Provide safe pedestrian crossing opportunities at the center of the Stallings School Node.
  - Coordinate improvements with Stallings Elementary School and the Monroe Bypass project.
- Enhanced Intersection at Stallings Road and US 74 (C-7)



- Provide safe pedestrian crossing opportunities to improve the pedestrian connection of the north and south sides of Town.
- Coordinate improvements with Monroe Expressway project.
- Crossing at Stevens Mill Road and Whetstone Drive (C-15)
  - Provide a safe pedestrian crossing at a prominent intersection of the Stallings School Node.
- Crossing of Stallings Rd. at North Fork Creek (South branch) (C-18)
  - Provide a safe pedestrian crossing for the North Fork Trail (project T-3) at Stallings Road at the south end of the Stallings School Node.
- Stallings Rd., part 1 (4,700' sidewalk facilities) (S-5)
  - Connect existing sidewalk along Stallings Road south of US 74 (at project C-7), and North Fork Trail (project T-3) to Stevens Mill Rd., along east side of Stallings Rd. This will create a continuous sidewalk link from Stevens Mill Rd. to St Johns Road and connect the Stallings School Node to the Downtown Node.
- Stallings Rd., part 2 (2,100' sidewalk facilities) (S-9)
  - Connect the Stallings School Node to Fairhaven Park, the North Fork Trail (project T-3), adjacent residential areas, and the existing Stevens Mill sidewalk.
- North Fork Trail (T-3)
  - Connect the Stallings School Node to residential neighborhoods and Fairhaven Park, existing sidewalks, and areas south of US 74





## 5.0 Site Traffic Volume Development

Site traffic developed for this TIA is defined as the site-generated trips expected to be added to the study area by the construction of the proposed development, and the distribution and assignment of that traffic throughout the surrounding network.

### 5.1 SITE ACCESS

Based on the provided site plan, the development proposes three access points, as outlined below.

- Access #1 – A full movement, unsignalized driveway connection to Stallings Road approximately 850 feet south of Stevens Mill Road
- Access #2 – A full movement, unsignalized driveway connection to Oakspring Road approximately 600 feet south of Stevens Mill Road
- Access #3 – A full movement, unsignalized driveway connection to Sweet Birch Drive approximately 850 feet east of Stallings Road

### 5.2 TRAFFIC GENERATION

The traffic generation potential of the proposed development was determined using the trip generation rates published in *Trip Generation* (Institute of Transportation Engineers, 10th Edition) for all land uses.

Based on the most recent site plan, provided by the Applicant, the proposed development is envisioned to included up to 222 single family homes.

**Table 5.1** summarizes the projected trip generation for the proposed development. During a typical weekday, the proposed development has the potential to generate 162 and 218 net new external trips during the AM and PM peak hours, respectively.

| Table 5.1 - Trip Generation   |           |              |              |           |            |              |            |           |
|-------------------------------|-----------|--------------|--------------|-----------|------------|--------------|------------|-----------|
| Land Use                      | Intensity | Daily        | AM Peak Hour |           |            | PM Peak Hour |            |           |
|                               |           |              | Total        | In        | Out        | Total        | In         | Out       |
| Single-Family Homes           | 222 DU    | 2,166        | 162          | 41        | 121        | 218          | 137        | 81        |
|                               |           |              |              |           |            |              |            |           |
| <b>Net New External Trips</b> |           | <b>2,166</b> | <b>162</b>   | <b>41</b> | <b>121</b> | <b>218</b>   | <b>137</b> | <b>81</b> |

### 5.3 SITE TRAFFIC DISTRIBUTION

The proposed development's trips were assigned to the surrounding network based on existing peak-hour turning movements, surrounding land uses, and population densities in the area. The site traffic distribution was reviewed and approved as part of the TIA MOU by the Town of Stallings, NCDOT, and the applicant:

- 15% to/from the north along Mt. Harmony Church Road
- 10% to/from the north along Stallings Road
- 5% to/from the east along Stevens Mill Road
- 5% to/from the south along Oakspring Road
- 25% to/from the west on Monroe Expressway
- 25% to/from the east on Monroe Expressway
- 5% to/from the east along Matthews-Indian Trail Road
- 10% to/from the south along Stallings Road

These distributions are also detailed in **Figure 5.1**

### 5.4 2027 BUILD-OUT TRAFFIC

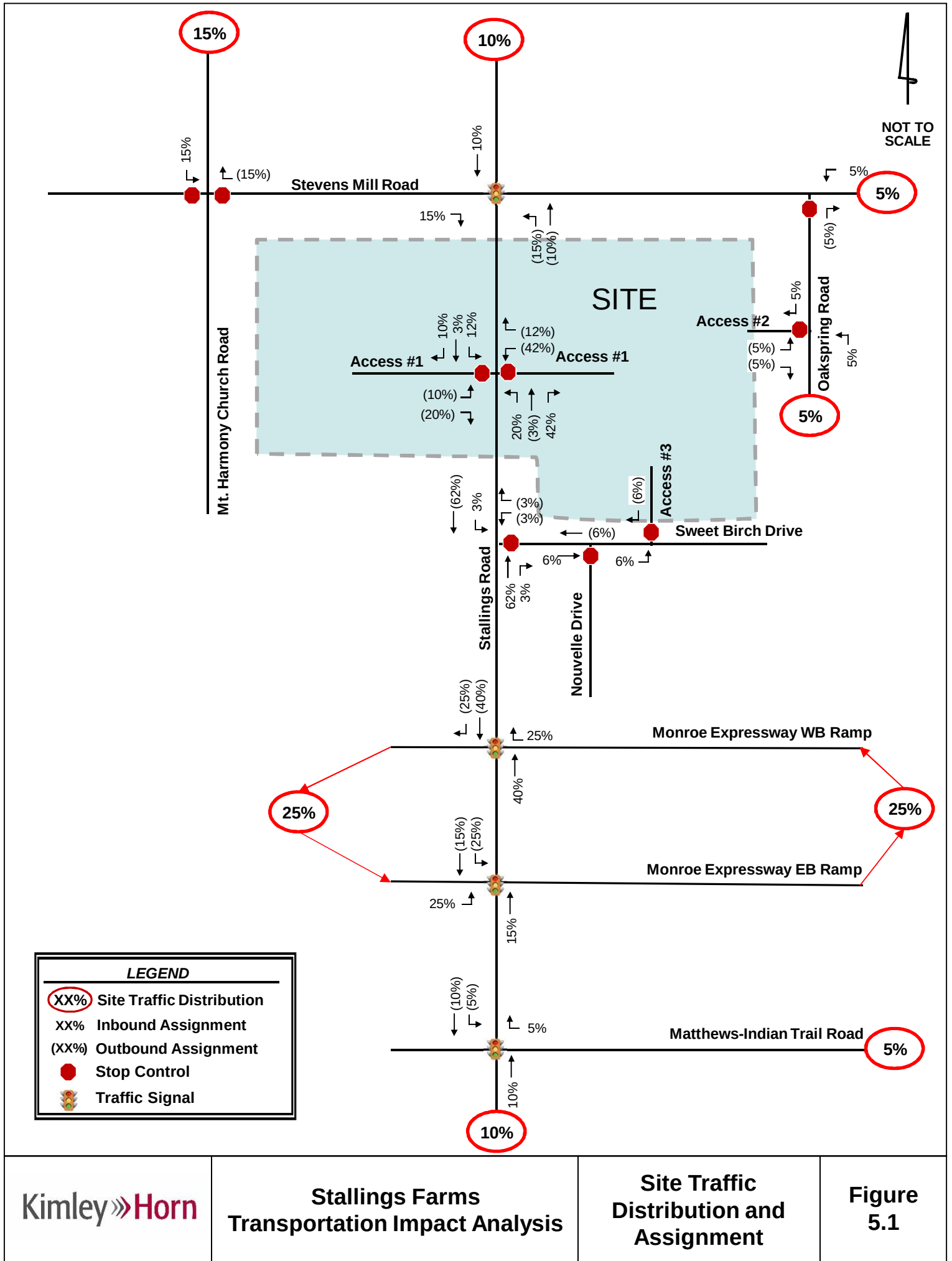
The 2027 build-out traffic volumes include the 2027 background traffic volumes and site traffic volumes. **Figures 5.2** and **5.3** show the projected 2027 build-out traffic volumes for the AM and PM peak-hours.

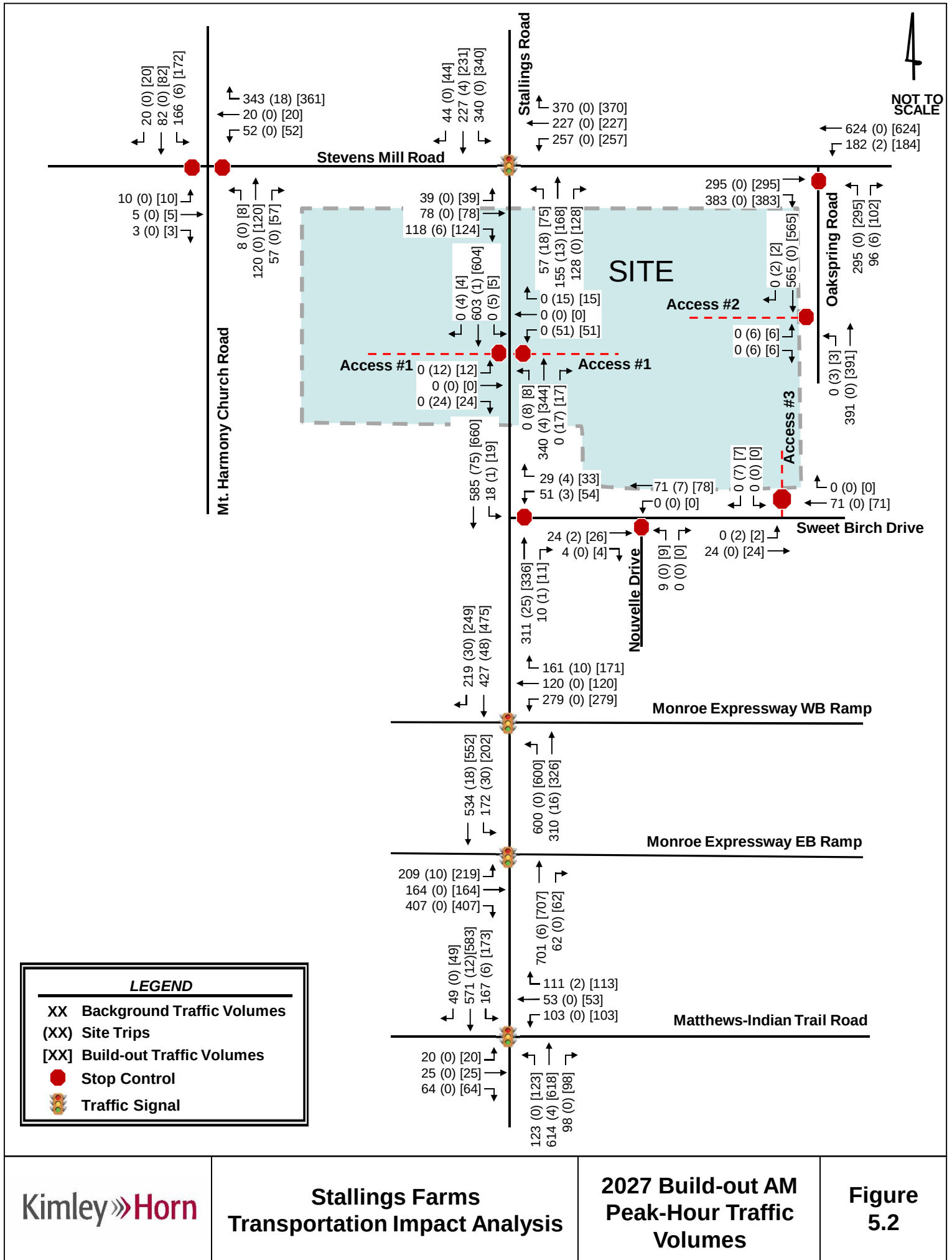
### 5.5 2032 BUILD-OUT TRAFFIC

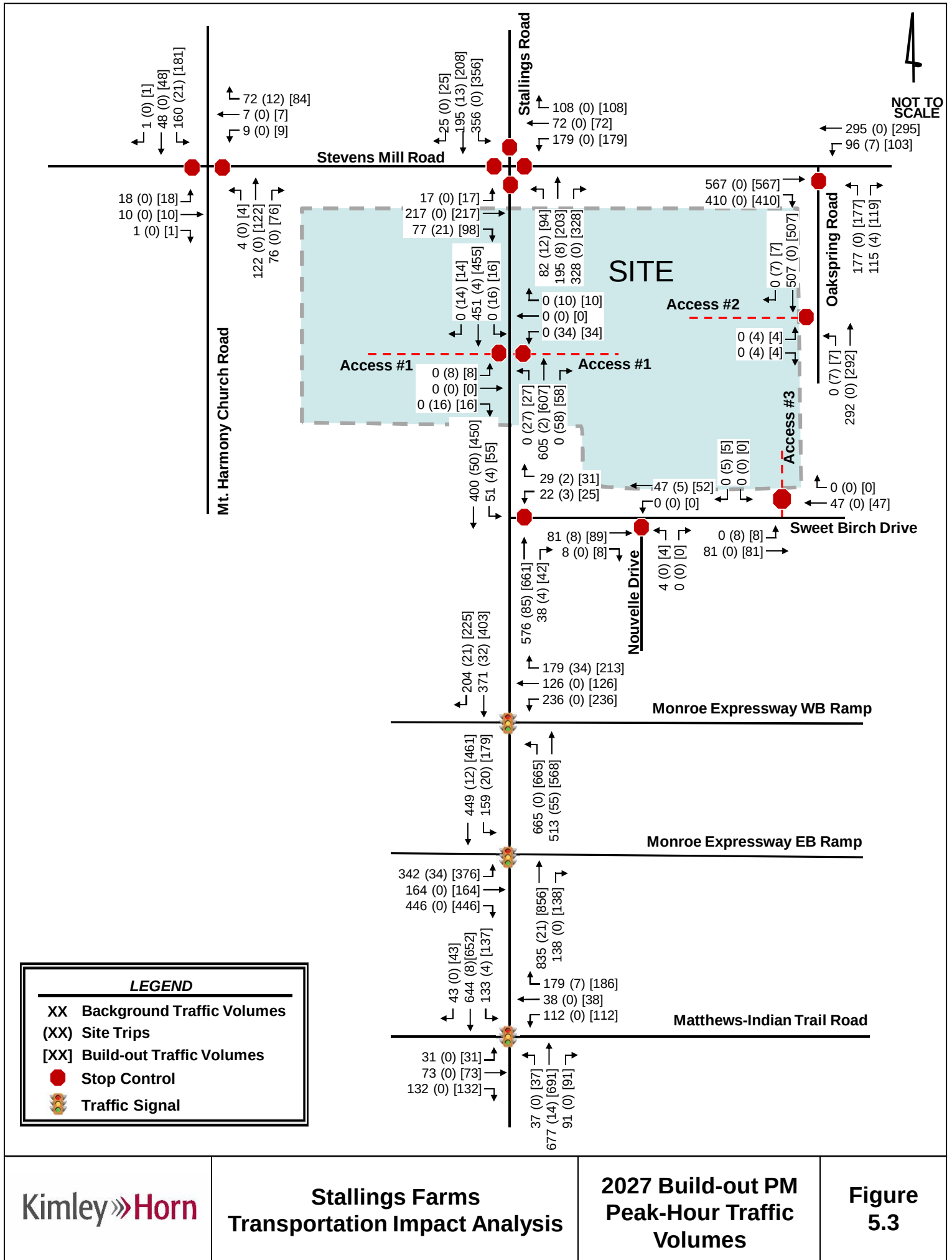
As required by the Town of Stallings *TIA Ordinance*, an analysis scenario of five years after the build-out year was performed. The 2032 build-out traffic volumes include the assignment of the proposed site traffic generation added to the 2032 base background traffic volumes. **Figure 5.4** shows the projected 2032 build-out traffic volumes for the AM and PM peak-hours.

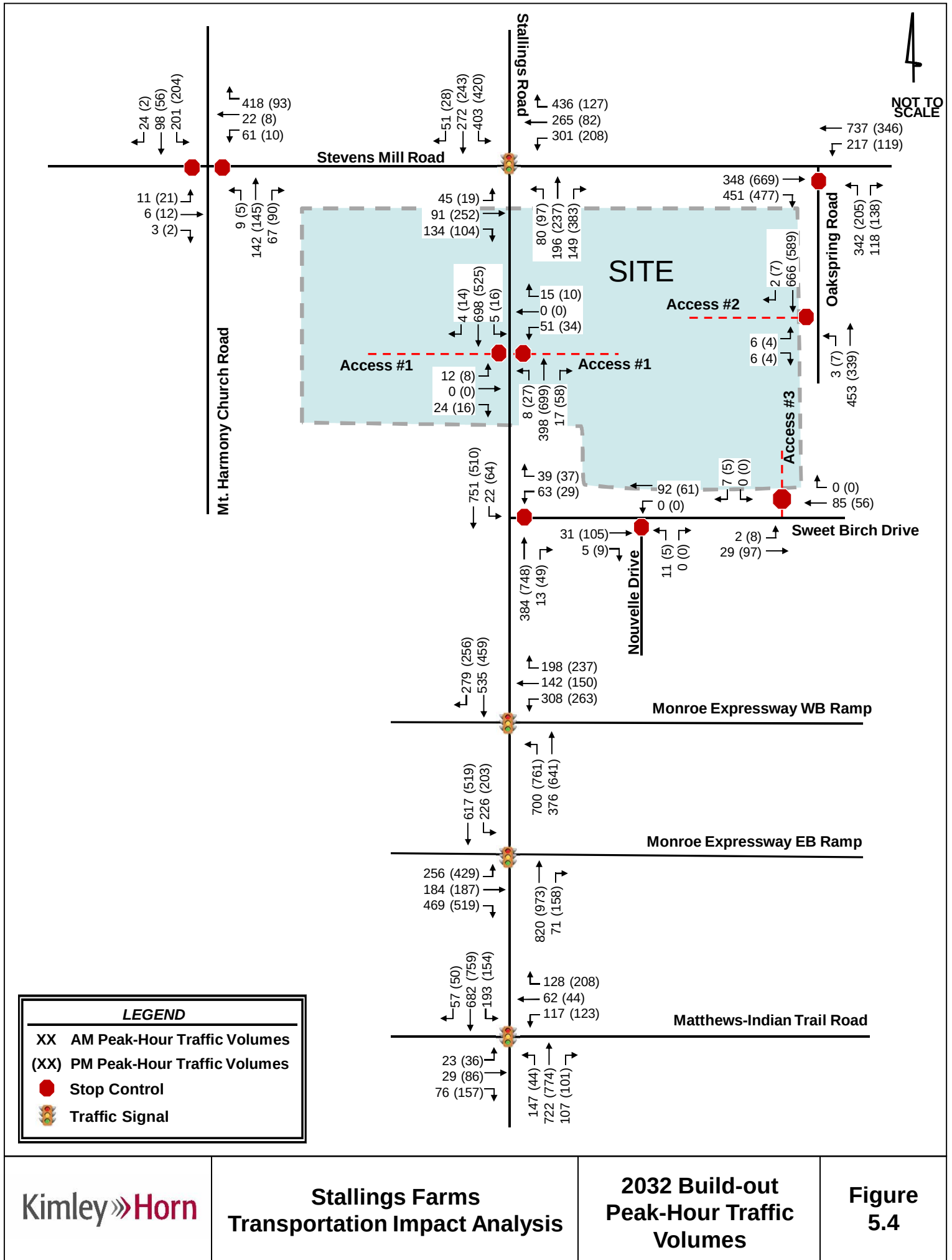
Intersection volume development worksheets are provided in the **Appendix**.











## 6.0 Vehicular Capacity Analysis

Based on the requirements set forth by the Town of Stallings *TIA Ordinance* and in accordance with the traffic study guidelines in the *NCDOT Policy on Street and Driveway Access to North Carolina Highways*, vehicular capacity analyses were performed at the study area intersections for the AM and PM peak-hour scenarios.

Vehicular capacity analyses were performed for the AM and PM peak hours using the Synchro Version 10 software to determine the operating characteristics at the signalized and stop-controlled intersections of the adjacent street network and to evaluate the impacts of the proposed development. Capacity is defined as the maximum number of vehicles that can pass over a particular road segment, or through a particular intersection, within a specified period of time under prevailing operational, geometric and controlling conditions within a set time duration. This software program uses methodologies contained in the *Highway Capacity Manual* (HCM) to determine the operating characteristics of an intersection.

The HCM defines LOS as a “quantitative stratification of a performance measure or measures representing quality of service” and is used to “translate complex numerical performance results into a simple A-F system representative of travelers’ perceptions of the quality of service provided by a facility or service”. The HCM defines six levels of service, LOS A through LOS F, with A having the best operating conditions from the traveler’s perspective and F having the worst. However, it must be understood that “the LOS letter result hides much of the complexity of facility performance”, and that “the appropriate LOS for a given system element in the community is a decision for local policy makers”. According to the HCM, “for cost, environmental impact, and other reasons, roadways are typically designed not to provide LOS A conditions during peak periods but instead to provide some lower LOS that balances individual travelers’ desires against society’s desires and financial resources. Nevertheless, during low-volume periods of the day, a system element may operate at LOS A.”

LOS for a two-way stop-controlled (TWSC) intersection is determined by the control delay and is reported for the side-street approaches, typically during the highest volume periods of the day, the AM and PM peak periods. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. With respect to field measurements, control delay is defined as the total elapsed time from the time a vehicle stops at the end of the queue to the time the vehicle departs from the stop line. It is typical for stop sign-controlled side streets and driveways intersecting major streets to experience long delays during peak hours, particularly for left-turn movements. The majority of the traffic moving through the intersection on the major street experiences little or no delay.

LOS for signalized intersections is reported for the intersection as a whole, and typically during the highest volume periods of the day, the AM and PM peak periods. One or more movements at an intersection may experience a low level-of-service, while the intersection as a whole may operate acceptably.

**Table 6.0-A** and **6.0-B** list the LOS control delay thresholds published in the HCM for unsignalized and signalized intersections, respectively, as well as the unsignalized operational descriptions assumed herein.

| Table 6.0-A<br>Vehicular LOS Control Delay Thresholds for<br><u>Unsignalized</u> Intersections |                                             |                 |
|------------------------------------------------------------------------------------------------|---------------------------------------------|-----------------|
| Level-of-Service                                                                               | Average Control Delay per Vehicle [sec/veh] |                 |
| A                                                                                              | $\leq 10$                                   | Short Delays    |
| B                                                                                              | $> 10 - 15$                                 |                 |
| C                                                                                              | $> 15 - 25$                                 |                 |
| D                                                                                              | $> 25 - 35$                                 | Moderate Delays |
| E                                                                                              | $> 35 - 50$                                 |                 |
| F                                                                                              | $> 50$                                      | Long Delays     |

| Table 6.0-B<br>Vehicular LOS Control Delay Thresholds for<br><u>Signalized</u> Intersections |                                             |  |
|----------------------------------------------------------------------------------------------|---------------------------------------------|--|
| Level-of-Service                                                                             | Average Control Delay per Vehicle [sec/veh] |  |
| A                                                                                            | $\leq 10$                                   |  |
| B                                                                                            | $> 10 - 20$                                 |  |
| C                                                                                            | $> 20 - 35$                                 |  |
| D                                                                                            | $> 35 - 55$                                 |  |
| E                                                                                            | $> 55 - 80$                                 |  |
| F                                                                                            | $> 80$                                      |  |

NCDOT staff provided the signal geometric plans for the signalized study area intersections, which were used in the development of the existing conditions Synchro network. The cycle length and splits were optimized given the timing inputs in the existing conditions network and in accordance with NCDOT Congestion Management guidelines.

The following modifications from the background data collected were applied to the capacity analyses to meet NCDOT *Congestion Management Capacity Analysis Guidelines*:

- Right-turn-on-red (RTOR) operations were not allowed.
- Protected-only left-turn phasing was used for analysis of future operations where protected/permitted left-turn phasing exists.
- Lost time adjust was added to the yellow and all-red times provided in the existing signal plans to maintain at total lost time of 5 seconds for each movement.
- A minimum of 4 vehicles per hour were used for permissible movements, excluding movements into and out of the proposed site.

Splits were optimized under background conditions at signalized intersections due to the protected-only phasing and additional laneage that was modeled in future years. Signal plans for the study area intersections are included in the **Appendix**.

Peak-hour factors (PHFs) were taken directly from the count data for the existing conditions scenario. A weighted PHF was utilized for all future year scenarios in the AM peak hour to account for the proximity of Stallings Elementary School and Matthews Charter Academy. A PHF of 0.9 was assumed for all future scenarios in the PM peak hour.

Heavy vehicle percentages were taken directly from field observations, subject to a 2% minimum.



Mitigation for vehicular traffic impacts caused by the proposed development were noted and identified based on Town of Stallings and NCDOT mitigation requirements. When determining the proposed development's vehicular traffic impact to the study area intersections, the build-out conditions were compared to the background conditions for each analysis scenario.

#### **NCDOT Mitigation Requirements**

Based on the NCDOT's *Policy on Street and Driveway Access to North Carolina Highways*, "the applicant shall be required to identify mitigation improvements to the roadway network if at least one of the following conditions exists when comparing base network conditions to project conditions:

- the total average delay at an intersection or individual approach increases by 25% or greater, while maintaining the same level of service
- the Level of Service degrades by at least one level,
- or Level of Service is 'F'."

#### **Town of Stallings Mitigation Requirements**

Based on the Town of Stallings *TIA Ordinance*, "the applicant shall be required to identify mitigation improvements to the transportation network if at least one of the following conditions exists when comparing the multimodal operations of future year background conditions to future year build-out conditions:

- a) the total average delay at an intersection or individual approach increases by 25% or greater, while maintaining the same LOS,
- b) the LOS degrades by at least one level,
- c) or the LOS is "D" or below the LOS threshold dictated by the zoning (as outlined in Table 6.0-C) in the background conditions and the proposed project shows a negative impact on the intersection or approach"

| <b>Table 6.0-C – LOS Thresholds</b> |                         |                        |
|-------------------------------------|-------------------------|------------------------|
| Zoning                              | Vehicular LOS Threshold | Bike/Ped LOS Threshold |
| AG, CIV                             | C                       | E                      |
| SFR, MFT, VSR, IND                  | D                       | D                      |
| TC, MU, C-74, CP-485, CZ, CUP       | E                       | C                      |
| Within a Small Area Plan Boundary   | E                       | C                      |
| All Other                           | D                       | D                      |

Capacity analysis reports generated by Synchro Version 10 software are included in the **Appendix**. Additionally, queuing and blocking reports generated by the SimTraffic microsimulation model are included in the **Appendix**.

Pedestrian and bicycle operations analyses is later discussed in **Section 8.0**.

## 6.1 STALLINGS ROAD AND STEVENS MILL ROAD

**Table 6.1** summarizes the LOS, control delay, and 95<sup>th</sup> percentile queue lengths at the existing unsignalized, all-way stop intersection of Stallings Road and Stevens Mill Road. This intersection is planned to be signalized by one of the future off-site developments.

| Table 6.1 - Stallings Road and Stevens Mill Road               |                  |          |      |           |       |       |          |      |           |      |                             |
|----------------------------------------------------------------|------------------|----------|------|-----------|-------|-------|----------|------|-----------|------|-----------------------------|
| Condition                                                      | Measure          | EB       |      | WB        |       |       | NB       |      | SB        |      | Intersection<br>LOS (Delay) |
|                                                                |                  | EBLT     | EBR  | WBL       | WBT   | WBR   | NBL      | NBTR | SBL       | SBTR |                             |
| AM Peak Hour                                                   |                  |          |      |           |       |       |          |      |           |      |                             |
| 2020 Existing                                                  | LOS (Delay)      | C (18.0) |      | F (51.0)  |       |       | C (22.7) |      | E (42.9)  |      | -                           |
|                                                                | SimTraffic Max Q | 92'      | -    | -         | 227'  | 131'  | 46'      | 147' | 221'      | 207' |                             |
| 2027 Background                                                | LOS (Delay)      | C (21.8) |      | E (77.5)  |       |       | B (13.8) |      | E (61.0)  |      | E (56.0)                    |
|                                                                | Synchro 95th Q   | 95'      | 75'  | -         | #431' | 247'  | 35'      | 149' | #288'     | 120' |                             |
| 2027 Build-out                                                 | LOS (Delay)      | C (21.8) |      | E (77.5)  |       |       | B (14.1) |      | E (66.0)  |      | E (57.1)                    |
|                                                                | Synchro 95th Q   | 95'      | 79'  | -         | #431' | 247'  | 45'      | 158' | #293'     | 123' |                             |
| 2027 Build-out IMP                                             | LOS (Delay)      | C (21.8) |      | D (46.0)  |       |       | B (12.3) |      | D (42.7)  |      | D (36.7)                    |
|                                                                | Synchro 95th Q   | 89'      | 89'  | #208'     | 154'  | #304' | 43'      | 150' | #280'     | 117' |                             |
| 2032 Build-out                                                 | LOS (Delay)      | C (22.0) |      | E (79.1)  |       |       | B (12.8) |      | F (113.5) |      | E (73.3)                    |
|                                                                | Synchro 95th Q   | 99'      | 90'  | #277'     | 171'  | #375' | 45'      | 172' | #371'     | 132' |                             |
| PM Peak Hour                                                   |                  |          |      |           |       |       |          |      |           |      |                             |
| 2020 Existing                                                  | LOS (Delay)      | C (18.7) |      | C (16.7)  |       |       | E (37.8) |      | C (20.8)  |      | -                           |
|                                                                | SimTraffic Max Q | 134'     | -    | -         | 96'   | 55'   | 118'     | 320' | 175'      | 96'  |                             |
| 2027 Background                                                | LOS (Delay)      | C (24.0) |      | E (68.5)  |       |       | B (12.5) |      | E (73.6)  |      | D (44.3)                    |
|                                                                | Synchro 95th Q   | 161'     | 61'  | -         | #267' | 80'   | 37'      | 243' | #362'     | 82'  |                             |
| 2027 Build-out                                                 | LOS (Delay)      | C (24.0) |      | E (68.5)  |       |       | B (12.6) |      | E (77.1)  |      | D (45.1)                    |
|                                                                | Synchro 95th Q   | 161'     | 74'  | -         | #267' | 80'   | 42'      | 248' | #365'     | 87'  |                             |
| 2027 Build-out IMP                                             | LOS (Delay)      | C (30.6) |      | E (60.6)  |       |       | B (10.6) |      | D (41.8)  |      | C (33.2)                    |
|                                                                | Synchro 95th Q   | 189'     | 87'  | #232'     | 66'   | 95'   | 40'      | 238' | #376'     | 84'  |                             |
| 2032 Build-out                                                 | LOS (Delay)      | D (39.1) |      | F (117.0) |       |       | B (14.9) |      | F (145.9) |      | E (79.5)                    |
|                                                                | Synchro 95th Q   | 280'     | 114' | #364'     | 92'   | 137'  | 54'      | 399' | #420'     | 128' |                             |
| Existing/Background Storage                                    |                  | -        |      | -         |       | 300'  | 150'     | -    | 150'      | -    |                             |
| # 95th percentile volume exceeds capacity, queue may be longer |                  |          |      |           |       |       |          |      |           |      |                             |

# 95th percentile volume exceeds capacity, queue may be longer

Per the Town of Stallings mitigation thresholds, the mitigation threshold for vehicular LOS at this intersection is **LOS E**, since it falls within the Stallings Elementary School small area plan. Per NCDOT mitigation thresholds, the mitigation threshold for vehicular LOS at this intersection is **LOS D**.

Under 2020 existing conditions, the westbound and southbound approaches are expected to operate with moderate to long delays in the AM peak hour and the northbound approach is expected to operate with moderate delays in the PM peak hour.

Under 2027 background conditions, the following improvements are planned to be constructed at this intersection by others:

- Installation of a traffic signal
- Extension of the southbound left-turn lane to provide 225 feet of storage
- Construction of an eastbound right-turn lane with 100 feet of storage

These improvements were included in all future year analyses. With these improvements in place, the westbound and southbound approaches are expected to operate at LOS E in both peak hours.

Under 2027 build-out conditions, with the addition of site traffic, these approaches are continued to operate at LOS E with increases in delay.

To mitigate these drops in delay, a westbound left turn-lane with 250 feet of storage is recommended. With the addition of this turn lane, the westbound approach is expected to return to LOS D in both peak hours.

This intersection is expected to meet signal warrants in both peak hours under background and build-out conditions. It should be noted that NCDOT may require a full, 13-hour signal warrant analysis be performed at this intersection prior to installation of a traffic signal. This 13-hour signal warrant was originally scoped to be included in this TIA (as shown in the MOU in the **Appendix**), however, 13-hour counts were not able to be collected due to COVID-19 and associated impacts to work and school schedules, as discussed in **Section 3.2**.

## 6.2 STALLINGS ROAD AND SWEET BIRCH DRIVE

**Table 6.2** summarizes the LOS, control delay, and 95<sup>th</sup> percentile queue lengths at the unsignalized intersection of Stallings Road and Sweet Birch Drive.

| Table 6.2 - Stallings Road and Sweet Birch Drive |                |          |      |         |         |
|--------------------------------------------------|----------------|----------|------|---------|---------|
| Condition                                        | Measure        | WB       |      | NB      | SB      |
|                                                  |                | WBT      | WBLR | NBTR    | SBLT    |
| AM Peak Hour                                     |                |          |      |         |         |
| 2020 Existing                                    | LOS (Delay)    | C (18.2) |      | A (0.0) | A (0.5) |
|                                                  | Synchro 95th Q | 19'      | -    | 0'      | 2'      |
| 2027 Background                                  | LOS (Delay)    | E (36.7) |      | A (0.0) | A (0.8) |
|                                                  | Synchro 95th Q | 52'      | -    | 0'      | 2'      |
| 2027 Build-out                                   | LOS (Delay)    | E (46.4) |      | A (0.0) | A (0.9) |
|                                                  | Synchro 95th Q | 69'      | -    | 0'      | 2'      |
| 2027 Build-out IMP                               | LOS (Delay)    | E (40.3) |      | A (0.0) | A (0.9) |
|                                                  | Synchro 95th Q | 59'      | 0'   | 0'      | 2'      |
| 2032 Build-out                                   | LOS (Delay)    | F (78.5) |      | A (0.0) | A (1.3) |
|                                                  | Synchro 95th Q | 118'     | 0'   | 0'      | 3'      |
| PM Peak Hour                                     |                |          |      |         |         |
| 2020 Existing                                    | LOS (Delay)    | B (13.9) |      | A (0.0) | A (1.5) |
|                                                  | Synchro 95th Q | 8'       | -    | 0'      | 3'      |
| 2027 Background                                  | LOS (Delay)    | C (20.8) |      | A (0.0) | A (1.7) |
|                                                  | Synchro 95th Q | 18'      | -    | 0'      | 5'      |
| 2027 Build-out                                   | LOS (Delay)    | D (26.7) |      | A (0.0) | A (1.9) |
|                                                  | Synchro 95th Q | 27'      | -    | 0'      | 6'      |
| 2027 Build-out IMP                               | LOS (Delay)    | C (23.8) |      | A (0.0) | A (1.9) |
|                                                  | Synchro 95th Q | 17'      | 0'   | 0'      | 6'      |
| 2032 Build-out                                   | LOS (Delay)    | D (31.2) |      | A (0.0) | A (2.4) |
|                                                  | Synchro 95th Q | 29'      | 0'   | 0'      | 8'      |

Per the Town of Stallings mitigation thresholds, the mitigation threshold for vehicular LOS at this intersection is **LOS E**, since it falls within the Stallings Elementary School small area plan. Per NCDOT mitigation thresholds, the mitigation threshold for vehicular LOS at this intersection is **LOS D**.

Under 2027 background conditions, the westbound, stop-controlled approach is expected to operate with moderate delays in the AM peak hour and short delays in the PM peak hour. With the addition of site traffic, the westbound, stop-controlled approach is expected to operate with moderate delays in both peak hours.

Due to the increase in delay in the AM peak hour and the drop in LOS in the PM peak hour, mitigation was considered. To mitigate these impacts, a westbound right-turn lane with 100 feet of storage is recommended. With the addition of this turn lane, delays in the AM peak hour are expected to decrease within 4 seconds of the background condition. Further, in the PM peak hour, the westbound, stop-controlled approach is expected to return to LOS C.

### 6.3 SWEET BIRCH DRIVE AND NOUVELLE DRIVE

**Table 6.3** summarizes the LOS, control delay, and 95<sup>th</sup> percentile queue lengths at the unsignalized intersection of Sweet Birch Drive and Nouvelle Drive.

| Table 6.3 - Sweet Birch Drive and Nouvelle Drive |                |         |         |         |
|--------------------------------------------------|----------------|---------|---------|---------|
| Condition                                        | Measure        | EB      | WB      | NB      |
|                                                  |                | EBTR    | WBLT    | NBLR    |
| AM Peak Hour                                     |                |         |         |         |
| 2020 Existing                                    | LOS (Delay)    | A (0.0) | A (0.5) | A (8.8) |
|                                                  | Synchro 95th Q | 0'      | 0'      | 1'      |
| 2027 Background                                  | LOS (Delay)    | A (0.0) | A (0.4) | A (9.0) |
|                                                  | Synchro 95th Q | 0'      | 0'      | 1'      |
| 2027 Build-out                                   | LOS (Delay)    | A (0.0) | A (0.3) | A (9.0) |
|                                                  | Synchro 95th Q | 0'      | 0'      | 1'      |
| 2032 Build-out                                   | LOS (Delay)    | A (0.0) | A (0.3) | A (9.1) |
|                                                  | Synchro 95th Q | 0'      | 0'      | 1'      |
| PM Peak Hour                                     |                |         |         |         |
| 2020 Existing                                    | LOS (Delay)    | A (0.0) | A (0.7) | A (8.9) |
|                                                  | Synchro 95th Q | 0'      | 0'      | 1'      |
| 2027 Background                                  | LOS (Delay)    | A (0.0) | A (0.5) | A (9.1) |
|                                                  | Synchro 95th Q | 0'      | 0'      | 1'      |
| 2027 Build-out                                   | LOS (Delay)    | A (0.0) | A (0.5) | A (9.1) |
|                                                  | Synchro 95th Q | 0'      | 0'      | 1'      |
| 2032 Build-out                                   | LOS (Delay)    | A (0.0) | A (0.4) | A (9.3) |
|                                                  | Synchro 95th Q | 0'      | 0'      | 1'      |

Per the Town of Stallings mitigation thresholds, the mitigation threshold for vehicular LOS at this intersection is **LOS E**, since it falls within the Stallings Elementary School small area plan. Per NCDOT mitigation thresholds, the mitigation threshold for vehicular LOS at this intersection is **LOS D**.

Under 2027 background conditions, the northbound, stop-controlled approach is expected to operate with short delays in both peak hours. With the addition of site traffic, the stop-controlled approach is expected to continue to operate with short delays. Therefore, no improvements are recommended for capacity purposes.

## 6.4 STALLINGS ROAD AND MONROE EXPRESSWAY WB RAMP

**Table 6.4** summarizes the LOS, control delay, and 95<sup>th</sup> percentile queue lengths at the signalized intersection of Stallings Road and Monroe Expressway WB Ramp.

| Table 6.4 - Stallings Road and Monroe Expressway WB Ramp |                |          |      |          |      |          |              |
|----------------------------------------------------------|----------------|----------|------|----------|------|----------|--------------|
| Condition                                                | Measure        | WB       |      | NB       |      | SB       | Intersection |
|                                                          |                | WBL      | WBT  | NBL      | NBTR | SBTR     | LOS (Delay)  |
| AM Peak Hour                                             |                |          |      |          |      |          |              |
| 2020 Existing                                            | LOS (Delay)    | D (51.2) |      | B (11.0) |      | C (34.4) | C (28.0)     |
|                                                          | Synchro 95th Q | 149'     | 115' | 85'      | 3'   | 109'     |              |
| 2027 Background                                          | LOS (Delay)    | D (48.2) |      | C (22.5) |      | D (44.5) | D (36.2)     |
|                                                          | Synchro 95th Q | 319'     | 141' | 230'     | 9'   | 177'     |              |
| 2027 Build-out                                           | LOS (Delay)    | D (47.9) |      | C (21.1) |      | D (45.6) | D (36.2)     |
|                                                          | Synchro 95th Q | 319'     | 146' | 229'     | 10'  | 198'     |              |
| 2032 Build-out                                           | LOS (Delay)    | D (54.4) |      | D (42.8) |      | D (50.4) | D (48.3)     |
|                                                          | Synchro 95th Q | #406'    | 184' | 327'     | 6'   | 234'     |              |
| PM Peak Hour                                             |                |          |      |          |      |          |              |
| 2020 Existing                                            | LOS (Delay)    | D (54.7) |      | A (9.6)  |      | D (38.3) | C (26.8)     |
|                                                          | Synchro 95th Q | 143'     | 123' | 114'     | 4'   | 115'     |              |
| 2027 Background                                          | LOS (Delay)    | D (52.0) |      | C (25.9) |      | D (41.5) | D (35.8)     |
|                                                          | Synchro 95th Q | 285'     | 170' | 264'     | 30'  | 159'     |              |
| 2027 Build-out                                           | LOS (Delay)    | D (52.2) |      | C (26.0) |      | D (42.1) | D (36.3)     |
|                                                          | Synchro 95th Q | 285'     | 188' | 263'     | 34'  | 173'     |              |
| 2032 Build-out                                           | LOS (Delay)    | E (62.7) |      | C (29.8) |      | D (50.3) | D (42.8)     |
|                                                          | Synchro 95th Q | #392'    | 237' | 336'     | 27'  | 209'     |              |

Per the Town of Stallings mitigation thresholds, the mitigation threshold for vehicular LOS at this intersection is **LOS E**, since it falls within the Monroe Bypass Corridor small area plan. Per NCDOT mitigation thresholds, the mitigation threshold for vehicular LOS at this intersection is **LOS D**.

Under 2027 background conditions, the overall intersection is projected to operate at LOS D in both peak hours. With the addition of site traffic, the overall intersection and its approaches are expected to continue to operate acceptably with no changes in LOS. Since the overall intersection operates under capacity and the delay is expected to increase minimally, no improvements are recommended at this intersection for capacity purposes.



## 6.5 STALLINGS ROAD AND MONROE EXPRESSWAY EB RAMP

**Table 6.5** summarizes the LOS, control delay, and 95<sup>th</sup> percentile queue lengths at the unsignalized intersection of Stallings Road and Monroe Expressway EB Ramp.

| Table 6.5 - Stallings Road and Monroe Expressway EB Ramp         |                |          |       |          |          |      |              |
|------------------------------------------------------------------|----------------|----------|-------|----------|----------|------|--------------|
| Condition                                                        | Measure        | EB       |       | NB       | SB       |      | Intersection |
|                                                                  |                | EBT      | EBR   | NBTR     | SBL      | SBT  | LOS (Delay)  |
| AM Peak Hour                                                     |                |          |       |          |          |      |              |
| 2020 Existing                                                    | LOS (Delay)    | D (43.1) |       | C (33.5) | A (5.1)  |      | C (29.9)     |
|                                                                  | Synchro 95th Q | 201'     | -     | 148'     | 8'       | 5'   |              |
| 2027 Background                                                  | LOS (Delay)    | D (46.9) |       | D (45.9) | A (4.0)  |      | C (33.6)     |
|                                                                  | Synchro 95th Q | 271'     | 304'  | 219'     | 42'      | 22'  |              |
| 2027 Build-out                                                   | LOS (Delay)    | D (47.6) |       | D (47.1) | A (4.6)  |      | C (33.9)     |
|                                                                  | Synchro 95th Q | 275'     | 308'  | 221'     | 46'      | 21'  |              |
| 2032 Build-out                                                   | LOS (Delay)    | E (55.6) |       | E (55.2) | B (16.8) |      | D (43.5)     |
|                                                                  | Synchro 95th Q | 347'     | 391'  | 227'     | 69'      | 8'   |              |
| PM Peak Hour                                                     |                |          |       |          |          |      |              |
| 2020 Existing                                                    | LOS (Delay)    | D (37.3) |       | D (38.0) | A (6.3)  |      | C (31.0)     |
|                                                                  | Synchro 95th Q | 241'     | -     | 167'     | 24'      | 11'  |              |
| 2027 Background                                                  | LOS (Delay)    | D (43.5) |       | D (48.1) | A (4.5)  |      | D (35.9)     |
|                                                                  | Synchro 95th Q | 343'     | 372'  | 274'     | m58'     | 23'  |              |
| 2027 Build-out                                                   | LOS (Delay)    | D (44.4) |       | D (50.4) | A (4.7)  |      | D (37.0)     |
|                                                                  | Synchro 95th Q | 359'     | 387'  | 281'     | m63'     | 22'  |              |
| 2032 Build-out                                                   | LOS (Delay)    | D (51.5) |       | E (69.2) | A (9.5)  |      | D (48.1)     |
|                                                                  | Synchro 95th Q | 459'     | #526' | 337'     | m72'     | m26' |              |
| # 95th percentile volume exceeds capacity, queue may be longer   |                |          |       |          |          |      |              |
| m Volume for 95th percentile queue is metered by upstream signal |                |          |       |          |          |      |              |

Per the Town of Stallings mitigation thresholds, the mitigation threshold for vehicular LOS at this intersection is **LOS E**, since it falls within the Monroe Bypass Corridor small area plan. Per NCDOT mitigation thresholds, the mitigation threshold for vehicular LOS at this intersection is **LOS D**.

Under 2027 background conditions, an exclusive eastbound right-turn lane with 325 feet of storage will be constructed at this intersection by the Atrium Union West development. This lane was included in all future year analyses.

Under 2027 background conditions, the overall intersection is projected to operate at LOS C and D in the AM and PM peak hours, respectively. With the addition of site traffic, the overall intersection and its approaches are expected to continue to operate acceptably with no changes in LOS. Since the overall intersection operates under capacity and the delay is expected to increase minimally, no improvements are recommended at this intersection for capacity purposes.

## 6.6 STALLINGS ROAD AND MATTHEWS-INDIAN TRAIL ROAD

**Table 6.6** summarizes the LOS, control delay, and 95<sup>th</sup> percentile queue lengths at the signalized intersection of Stallings Road and Matthews-Indian Trail Road.

| Table 6.6 - Stallings Road and Matthews-Indian Trail Road      |                |          |       |          |       |          |      |          |      |              |
|----------------------------------------------------------------|----------------|----------|-------|----------|-------|----------|------|----------|------|--------------|
| Condition                                                      | Measure        | EB       |       | WB       |       | NB       |      | SB       |      | Intersection |
|                                                                |                | EBL      | EBTR  | WBL      | WBTR  | NBL      | NBTR | SBL      | SBTR | LOS (Delay)  |
| AM Peak Hour                                                   |                |          |       |          |       |          |      |          |      |              |
| 2020 Existing                                                  | LOS (Delay)    | B (14.8) |       | B (17.1) |       | A (9.4)  |      | A (8.5)  |      | B (10.6)     |
|                                                                | Synchro 95th Q | 13'      | 39'   | 39'      | 59'   | 39'      | 176' | 36'      | 157' |              |
| 2027 Background                                                | LOS (Delay)    | C (22.4) |       | C (33.4) |       | B (16.3) |      | B (18.8) |      | C (20.3)     |
|                                                                | Synchro 95th Q | 22'      | 61'   | 74'      | 101'  | 56'      | 309' | #158'    | 223' |              |
| 2027 Build-out                                                 | LOS (Delay)    | C (22.6) |       | C (34.1) |       | B (16.3) |      | C (20.0) |      | C (20.9)     |
|                                                                | Synchro 95th Q | 22'      | 61'   | 74'      | 103'  | 57'      | 312' | #166'    | 230' |              |
| 2032 Build-out                                                 | LOS (Delay)    | C (34.7) |       | E (67.5) |       | B (16.1) |      | C (23.5) |      | C (27.9)     |
|                                                                | Synchro 95th Q | 32'      | 93'   | #130'    | 154'  | 85'      | 437' | #120'    | 312' |              |
| PM Peak Hour                                                   |                |          |       |          |       |          |      |          |      |              |
| 2020 Existing                                                  | LOS (Delay)    | B (17.0) |       | B (16.5) |       | A (9.9)  |      | A (9.4)  |      | B (11.8)     |
|                                                                | Synchro 95th Q | 19'      | 99'   | 31'      | 63'   | 14'      | 198' | 30'      | 173' |              |
| 2027 Background                                                | LOS (Delay)    | C (25.1) |       | C (27.6) |       | B (17.0) |      | B (19.0) |      | C (20.3)     |
|                                                                | Synchro 95th Q | 30'      | #152' | 87'      | #170' | 18'      | 310' | #131'    | 266' |              |
| 2027 Build-out                                                 | LOS (Delay)    | C (25.7) |       | C (29.0) |       | B (17.3) |      | C (20.3) |      | C (21.2)     |
|                                                                | Synchro 95th Q | 31'      | #152' | 87'      | #178' | 18'      | 322' | #138'    | 272' |              |
| 2032 Build-out                                                 | LOS (Delay)    | D (41.2) |       | E (55.2) |       | B (17.6) |      | C (26.6) |      | C (29.2)     |
|                                                                | Synchro 95th Q | 46'      | #240' | #168'    | #259' | 25'      | 500' | #119'    | 416' |              |
| # 95th percentile volume exceeds capacity, queue may be longer |                |          |       |          |       |          |      |          |      |              |

Per the Town of Stallings mitigation thresholds, the mitigation threshold for vehicular LOS at this intersection is **LOS E**, since it falls within the Monroe Bypass Corridor small area plan. Per NCDOT mitigation thresholds, the mitigation threshold for vehicular LOS at this intersection is **LOS D**.

Under 2027 background conditions, in both peak hours, the overall intersection is expected to operate at LOS C and each approach is expected to operate at LOS C or better. With the addition of site traffic in the both peak hours, the southbound approach is projected to drop from LOS B to LOS C. However, the increase in delay is expected to be less than 2 seconds in each peak hour.

Since the overall intersection operates at the same LOS as the background conditions and the delay is expected to increase minimally, no improvements are recommended at this intersection for capacity purposes.

## 6.7 STEVENS MILL ROAD AND MT. HARMONY CHURCH ROAD

**Table 6.7** summarizes the LOS, control delay, and 95<sup>th</sup> percentile queue lengths at the unsignalized intersection of Stevens Mill Road and Mt. Harmony Church Road.

| Table 6.7 - Stevens Mill Road and Mt. Harmony Church Road |                |           |          |      |         |         |      |
|-----------------------------------------------------------|----------------|-----------|----------|------|---------|---------|------|
| Condition                                                 | Measure        | EB        | WB       |      | NB      | SB      |      |
|                                                           |                | EBLTR     | WBL      | WBTR | NBLTR   | SBL     | SBTR |
| AM Peak Hour                                              |                |           |          |      |         |         |      |
| 2020 Existing                                             | LOS (Delay)    | D (27.6)  | B (14.7) |      | A (0.6) | A (5.0) |      |
|                                                           | Synchro 95th Q | 22'       | 22'      | 57'  | 1'      | 12'     | 0'   |
| 2027 Background                                           | LOS (Delay)    | F (124.5) | D (26.4) |      | A (0.7) | A (5.3) |      |
|                                                           | Synchro 95th Q | 78'       | 53'      | 161' | 1'      | 18'     | 0'   |
| 2027 Build-out                                            | LOS (Delay)    | F (149.7) | D (28.0) |      | A (0.7) | A (5.4) |      |
|                                                           | Synchro 95th Q | 85'       | 54'      | 177' | 1'      | 19'     | 0'   |
| 2032 Build-out                                            | LOS (Delay)    | F (712.7) | F (62.7) |      | A (0.7) | A (5.6) |      |
|                                                           | Synchro 95th Q | 161'      | 111'     | 348' | 1'      | 24'     | 0'   |
| PM Peak Hour                                              |                |           |          |      |         |         |      |
| 2020 Existing                                             | LOS (Delay)    | B (13.2)  | B (11.4) |      | A (0.5) | A (5.5) |      |
|                                                           | Synchro 95th Q | 8'        | 3'       | 7'   | 1'      | 8'      | 0'   |
| 2027 Background                                           | LOS (Delay)    | C (17.6)  | B (10.8) |      | A (0.2) | A (6.1) |      |
|                                                           | Synchro 95th Q | 9'        | 2'       | 10'  | 0'      | 11'     | 0'   |
| 2027 Build-out                                            | LOS (Delay)    | C (19.2)  | B (11.0) |      | A (0.2) | A (6.3) |      |
|                                                           | Synchro 95th Q | 10'       | 2'       | 11'  | 0'      | 13'     | 0'   |
| 2032 Build-out                                            | LOS (Delay)    | C (23.5)  | B (11.7) |      | A (0.2) | A (6.5) |      |
|                                                           | Synchro 95th Q | 15'       | 3'       | 14'  | 0'      | 16'     | 0'   |

This intersection falls outside of the Town of Stallings. Per NCDOT mitigation thresholds, the mitigation threshold for vehicular LOS at this intersection is **LOS D**.

Under 2027 background conditions, the eastbound stop-controlled approach is projected to operate at LOS F with long delays during the AM peak hour.

With the addition of site traffic, the eastbound stop-controlled approach is expected to continue to operate at LOS F in the AM peak hour with an increase in delay (25.2 seconds). This approach is projected to have 18 vehicles in the AM peak hour and 29 vehicles in the PM peak hour, with no site trips added. Due to the low volume of traffic on this approach and the addition of no site trips, no improvements are recommended at this intersection for capacity purposes.

## 6.8 STEVENS MILL ROAD AND OAKSPRING ROAD

**Table 6.8** summarizes the LOS, control delay, and 95<sup>th</sup> percentile queue lengths at the unsignalized intersection of Stevens Mill Road and Oakspring Road.

| Table 6.8 - Stevens Mill Road and Oakspring Road |                |         |     |          |           |     |
|--------------------------------------------------|----------------|---------|-----|----------|-----------|-----|
| Condition                                        | Measure        | EB      |     | WB       | NB        |     |
|                                                  |                | EBTR    | EBR | WBLT     | NBLR      | NBR |
| AM Peak Hour                                     |                |         |     |          |           |     |
| 2020 Existing                                    | LOS (Delay)    | A (0.0) |     | A (4.6)  | F (671.3) |     |
|                                                  | Synchro 95th Q | 0'      | -   | 18'      | 644'      | -   |
| 2027 Background                                  | LOS (Delay)    | A (0.0) |     | A (10.0) | F (Err)   |     |
|                                                  | Synchro 95th Q | 0'      | -   | 38'      | Err       | 0'  |
| 2027 Build-out                                   | LOS (Delay)    | A (0.0) |     | B (10.1) | F (Err)   |     |
|                                                  | Synchro 95th Q | 0'      | -   | 39'      | Err       | 0'  |
| 2027 Build-out IMP                               | LOS (Delay)    | A (0.0) |     | A (8.5)  | F (Err)   |     |
|                                                  | Synchro 95th Q | 0'      | 0'  | 33'      | Err       | 0'  |
| 2032 Build-out                                   | LOS (Delay)    | A (0.0) |     | B (15.0) | F (Err)   |     |
|                                                  | Synchro 95th Q | 0'      | 0'  | 53'      | Err       | 0'  |
| PM Peak Hour                                     |                |         |     |          |           |     |
| 2020 Existing                                    | LOS (Delay)    | A (0.0) |     | A (3.4)  | F (73.4)  |     |
|                                                  | Synchro 95th Q | 0'      | -   | 9'       | 221'      | -   |
| 2027 Background                                  | LOS (Delay)    | A (0.0) |     | A (5.6)  | F (616.6) |     |
|                                                  | Synchro 95th Q | 0'      | -   | 18'      | 670'      | 0'  |
| 2027 Build-out                                   | LOS (Delay)    | A (0.0) |     | A (9.7)  | F (658.8) |     |
|                                                  | Synchro 95th Q | 0'      | -   | 19'      | 693'      | 0'  |
| 2027 Build-out IMP                               | LOS (Delay)    | A (0.0) |     | A (5.1)  | F (202.3) |     |
|                                                  | Synchro 95th Q | 0'      | 0'  | 16'      | 423'      | 0'  |
| 2032 Build-out                                   | LOS (Delay)    | A (0.0) |     | A (6.9)  | F (625.7) |     |
|                                                  | Synchro 95th Q | 0'      | 0'  | 24'      | 777'      | 0'  |

Per the Town of Stallings mitigation thresholds, the mitigation threshold for vehicular LOS at this intersection is **LOS E**, since it falls within the Stallings Elementary School small area plan. Per NCDOT mitigation thresholds, the mitigation threshold for vehicular LOS at this intersection is **LOS D**.

Under 2027 background conditions, an exclusive northbound right-turn lane with 100 feet of storage will be constructed at this intersection by the Willows at Stallings development. This lane was included in all future year analyses.

Under 2027 background conditions, the northbound stop-controlled approach is projected to operate at LOS F with long delays and queues during both peak hours.

With the addition of site traffic, the northbound stop-controlled approach is expected to continue to operate at LOS F with increases in delay in both peak-hours. To mitigate these impacts, an

eastbound right-turn lane with 100 feet of storage is recommended. With the addition of this turn lane, delays in the PM peak hours are expected to be mitigated.

## 6.9 STALLINGS ROAD AND ACCESS #1

**Table 6.9** summarizes the LOS, control delay, and 95<sup>th</sup> percentile queue lengths at the proposed full-movement intersection of Stallings Road and Access #1.

| Table 6.9 - Stallings Road and Access #1 |                |          |           |         |         |
|------------------------------------------|----------------|----------|-----------|---------|---------|
| Condition                                | Measure        | EB       | WB        | NB      | SB      |
|                                          |                | EBLTR    | WBLTR     | NBLTR   | SBLTR   |
| AM Peak Hour                             |                |          |           |         |         |
| 2027 Build-out                           | LOS (Delay)    | C (24.2) | F (54.4)  | A (0.3) | A (0.1) |
|                                          | Synchro 95th Q | 16'      | 62'       | 1'      | 0'      |
| 2032 Build-out                           | LOS (Delay)    | E (39.1) | F (175.1) | A (0.4) | A (0.2) |
|                                          | Synchro 95th Q | 27'      | 124'      | 1'      | 0'      |
| PM Peak Hour                             |                |          |           |         |         |
| 2027 Build-out                           | LOS (Delay)    | C (20.9) | E (43.8)  | A (0.8) | A (0.6) |
|                                          | Synchro 95th Q | 9'       | 36'       | 2'      | 2'      |
| 2032 Build-out                           | LOS (Delay)    | D (28.7) | F (82.5)  | A (0.8) | A (0.6) |
|                                          | Synchro 95th Q | 13'      | 60'       | 2'      | 2'      |

Per the Town of Stallings mitigation thresholds, the mitigation threshold for vehicular LOS at this intersection is **LOS E**, since it falls within the Stallings Elementary School small area plan. Per NCDOT mitigation thresholds, the mitigation threshold for vehicular LOS at this intersection is **LOS D**.

Based on the site plan shown in **Figure 3.2**, the eastbound and westbound approaches were assumed to have one ingress lane and one egress lane. Under 2027 build-out conditions, the eastbound approach is expected to operate with short delays and queues. The westbound approach is expected to operate with long delays in the AM peak hour and moderate delays in the PM peak hour. A second egress lane was considered on this approach, but it would only be expected to decrease delays by 3.7 seconds in the AM peak hour and 2.3 seconds in the PM peak hour. It is not uncommon for stop-controlled side-streets to experience long delays in the peak hours. The developer could consider a second egress lane at this access if they desire to through the site planning process, but it is expected to add minimal capacity benefits.

The SimTraffic maximum queues for these approaches show minimal queueing is expected on the eastbound and westbound approaches; 50 feet and 88 feet, respectively. Therefore, a minimum internal protected stem of 100 feet is recommended for both approaches.

## 6.10 OAKSPRING ROAD AND ACCESS #2

**Table 6.10** summarizes the LOS, control delay, and 95<sup>th</sup> percentile queue lengths at the proposed full-movement intersection of Oakspring Road and Access #2.

| Table 6.10 - Oakspring Road and Access #2 |                |          |         |         |
|-------------------------------------------|----------------|----------|---------|---------|
| Condition                                 | Measure        | EB       | NB      | SB      |
|                                           |                | EBLR     | NBTR    | SBTL    |
| AM Peak Hour                              |                |          |         |         |
| 2027 Build-out                            | LOS (Delay)    | C (17.3) | A (0.1) | A (0.0) |
|                                           | Synchro 95th Q | 4'       | 0'      | 0'      |
| 2032 Build-out                            | LOS (Delay)    | C (20.7) | A (0.1) | A (0.0) |
|                                           | Synchro 95th Q | 5'       | 0'      | 0'      |
| PM Peak Hour                              |                |          |         |         |
| 2027 Build-out                            | LOS (Delay)    | B (14.6) | A (0.3) | A (0.0) |
|                                           | Synchro 95th Q | 2'       | 1'      | 0'      |
| 2032 Build-out                            | LOS (Delay)    | C (16.4) | A (0.3) | A (0.0) |
|                                           | Synchro 95th Q | 2'       | 1'      | 0'      |

Per the Town of Stallings mitigation thresholds, the mitigation threshold for vehicular LOS at this intersection is **LOS E**, since it falls within the Stallings Elementary School small area plan. Per NCDOT mitigation thresholds, the mitigation threshold for vehicular LOS at this intersection is **LOS D**.

Based on the site plan shown in **Figure 3.2**, the eastbound approach was assumed to have one ingress lane and one egress lane. Under 2027 build-out conditions, the eastbound stop-controlled approach of this intersection is expected to operate with short delays and queues; therefore, no mitigation is identified for this proposed access for capacity purposes.

A SimTraffic maximum queue of 96 feet is expected on the eastbound approach in the AM peak hour; therefore, a minimum internal protected stem of 100 feet is recommended.



### 6.11 SWEET BIRCH DRIVE AND ACCESS #3

**Table 6.11** summarizes the LOS, control delay, and 95<sup>th</sup> percentile queue lengths at the proposed full-movement intersection of Sweet Birch Drive and Access #3.

| Table 6.11 - Sweet Birch Drive and Access #3 |                |         |         |         |
|----------------------------------------------|----------------|---------|---------|---------|
| Condition                                    | Measure        | EB      | WB      | SB      |
|                                              |                | EBLT    | WBTR    | SBLR    |
| AM Peak Hour                                 |                |         |         |         |
| 2027 Build-out                               | LOS (Delay)    | A (0.5) | A (0.0) | A (8.7) |
|                                              | Synchro 95th Q | 0'      | 0'      | 1'      |
| 2032 Build-out                               | LOS (Delay)    | A (0.4) | A (0.0) | A (8.8) |
|                                              | Synchro 95th Q | 0'      | 0'      | 1'      |
| PM Peak Hour                                 |                |         |         |         |
| 2027 Build-out                               | LOS (Delay)    | A (0.7) | A (0.0) | A (8.6) |
|                                              | Synchro 95th Q | 0'      | 0'      | 0'      |
| 2032 Build-out                               | LOS (Delay)    | A (0.6) | A (0.0) | A (8.6) |
|                                              | Synchro 95th Q | 0'      | 0'      | 0'      |

Per the Town of Stallings mitigation thresholds, the mitigation threshold for vehicular LOS at this intersection is **LOS E**, since it falls within the Stallings Elementary School small area plan. Per NCDOT mitigation thresholds, the mitigation threshold for vehicular LOS at this intersection is **LOS D**.

Based on the site plan shown in **Figure 3.2**, the southbound approach was expected to have one ingress lane and one egress lane. Under 2027 build-out conditions, the southbound stop-controlled approach of this intersection is expected to operate with short delays and queues; therefore, no mitigation is identified for this proposed access for capacity purposes.

A SimTraffic maximum queue of 32 feet is expected on the southbound approach in the AM peak hour; therefore, a minimum internal protected stem of 100 feet is recommended.

## 7.0 Auxiliary Turn Lane Warrants

Warrants for additional turn-lane improvements for unsignalized intersections beyond those necessary for capacity were determined based on a review of the figure titled 'Warrant for Left and Right-Turn Lanes' found on page 80 in the *NCDOT Policy On Street And Driveway Access to North Carolina Highways*, included in the **Appendix**. The following auxiliary turn lanes are warranted under background and build-out conditions:

### Background

#### Stallings Road and Sweet Birch Drive

- Northbound right-turn lane with 50 feet of storage
- Southbound left-turn lane with 75 feet of storage

#### Stevens Mill Road and Mt. Harmony Church Road

- Northbound right-turn lane with 75 feet of storage
- Southbound left-turn lane with 125 feet of storage

#### Stevens Mill Road and Oakspring Road

- Eastbound right-turn lane with 300 feet of storage
- Westbound left-turn lane with 200 feet of storage

### Build-Out

#### Stallings Road and Sweet Birch Drive

- Northbound right-turn lane with 50 feet of storage
- Southbound left-turn lane with 75 feet of storage

Since these turn lanes are warranted in the background conditions, no auxiliary turn lanes are recommended at this intersection.

#### Stevens Mill Road and Mt. Harmony Church Road

- Northbound right-turn lane with 75 feet of storage
- Southbound left-turn lane with 125 feet of storage

Since these turn lanes are warranted in the background conditions, no auxiliary turn lanes are recommended at this intersection.

#### Stevens Mill Road and Oakspring Road

- Eastbound right-turn lane with 300 feet of storage
- Westbound left-turn lane with 200 feet of storage

Since these turn lanes are warranted in the background conditions, no auxiliary turn lanes are recommended at this intersection.

#### Stallings Road and Access #1

- Northbound left-turn lane with 50 feet of storage
- Northbound right-turn lane with 50 feet of storage
- Southbound left-turn lane with 50 feet of storage

Based on coordination with NCDOT and the Town, a northbound left-turn lane with 100 feet of storage will also be required at Oakspring Road and Access #2.

A minimum turn lane storage length of 100 feet may be required by NCDOT for auxiliary turn lanes. All warranted turn lanes are recommended to contain at least 100 feet of storage. Final required turn lane lengths should be confirmed with Town and NCDOT staff.

## 8.0 Pedestrian and Bicycle Operations Analysis

In addition to vehicular capacity analyses, the Town of Stallings also requires non-vehicular operations analyses, including pedestrian and bicycle analyses, to allow for the safe and convenient travel for all transportation modes.

### Pedestrian Operations Analysis

The *Highway Capacity Manual 6<sup>th</sup> Edition* was used to evaluate the pedestrian LOS at the study intersections. The HCM provides methodology for calculating the pedestrian LOS for TWSC intersections and signalized intersections based on geometric data, demand data and signal control data including, but not limited to:

- Number of lanes on the major street
- Crossing distance
- Traffic volumes
- Motorist yielding rates to pedestrians
- Cycle length
- Walk time
- Presence of pedestrian phase

It should be noted that pedestrian delay and LOS calculation methodology for TWSC intersections in the HCM only applies to the major street, free-flow crossings. It is stated in the HCM that “approaches where conflicting traffic is stop-controlled are assumed to result in negligible delay for pedestrians, as vehicles are required to stop and wait for conflicting vehicle and pedestrian traffic before proceeding.”

**Tables 8.0-A** and **8.0-B** list the pedestrian LOS thresholds published in the HCM for unsignalized and signalized intersections, respectively.

| <b>Table 8.0-A</b><br><b>Pedestrian LOS Thresholds for</b><br><b>Unsignalized Intersections</b> |                                                       |
|-------------------------------------------------------------------------------------------------|-------------------------------------------------------|
| <b>Level-of-Service</b>                                                                         | <b>Average Control Delay (seconds per pedestrian)</b> |
| A                                                                                               | 0 – 5                                                 |
| B                                                                                               | 5 – 10                                                |
| C                                                                                               | 10 – 20                                               |
| D                                                                                               | 20 – 30                                               |
| E                                                                                               | 30 – 45                                               |
| F                                                                                               | > 45                                                  |

| Table 8.0-B<br>Pedestrian LOS Thresholds for<br>Signalized Intersections |               |
|--------------------------------------------------------------------------|---------------|
| Level-of-Service                                                         | LOS Score     |
| A                                                                        | ≤ 1.50        |
| B                                                                        | > 1.50 – 2.50 |
| C                                                                        | > 2.50 – 3.50 |
| D                                                                        | > 3.50 – 4.50 |
| E                                                                        | > 4.50 – 5.50 |
| F                                                                        | > 5.50        |

The pedestrian LOS calculation worksheets are included in the **Appendix**.

**Table 8.1** summarizes the LOS and control delay (seconds per pedestrian) at the study area intersections for each of the analysis scenarios. The LOS and delay are reported for pedestrians crossing the free-flow approaches only at the TWSC intersections and reported for all approaches at signalized intersections.

| Table 8.1 - Pedestrian Operations                                                    |           |          |          |          |          |
|--------------------------------------------------------------------------------------|-----------|----------|----------|----------|----------|
| Condition                                                                            | Peak Hour | EB       | WB       | NB       | SB       |
| <b>1 - Stallings Road and Stevens Mill Road (No Pedestrian LOS for All-Way Stop)</b> |           |          |          |          |          |
| 2027 Background                                                                      | AM        | C (2.68) | B (2.48) | B (2.3)  | C (3.11) |
|                                                                                      | PM        | C (2.6)  | B (2.3)  | B (2.14) | C (2.97) |
| 2027 Build                                                                           | AM        | C (2.7)  | B (2.49) | B (2.34) | C (3.11) |
|                                                                                      | PM        | C (2.63) | B (2.31) | B (2.16) | C (2.97) |
| 2027 Build Improved                                                                  | AM        | C (2.69) | B (2.48) | B (2.35) | C (3.12) |
|                                                                                      | PM        | C (2.63) | B (2.31) | B (2.29) | C (3.02) |
| 2032 Build+5                                                                         | AM        | C (2.83) | B (2.59) | B (2.39) | C (3.33) |
|                                                                                      | PM        | C (2.75) | B (2.38) | B (2.33) | C (3.23) |
| <b>2 - Stallings Road and Sweet Birch Drive</b>                                      |           |          |          |          |          |
| 2020 Existing                                                                        | AM        | C (15.7) | C (15.7) | -        | -        |
|                                                                                      | PM        | C (17.1) | C (17.1) | -        | -        |
| 2027 Background                                                                      | AM        | E (36)   | E (36)   | -        | -        |
|                                                                                      | PM        | E (43.9) | E (43.9) | -        | -        |
| 2027 Build                                                                           | AM        | F (46.1) | F (46.1) | -        | -        |
|                                                                                      | PM        | F (60.8) | F (60.8) | -        | -        |
| 2027 Build Improved                                                                  | AM        | F (46.1) | F (46.1) | -        | -        |
|                                                                                      | PM        | F (60.8) | F (60.8) | -        | -        |
| 2032 Build+5                                                                         | AM        | F (64.3) | F (64.3) | -        | -        |
|                                                                                      | PM        | F (86.1) | F (86.1) | -        | -        |
| <b>3 - Sweet Birch Drive and Nouvelle Drive</b>                                      |           |          |          |          |          |
| 2020 Existing                                                                        | AM        | -        | -        | A (1.5)  | A (1.5)  |
|                                                                                      | PM        | -        | -        | A (2.1)  | A (2.1)  |
| 2027 Background                                                                      | AM        | -        | -        | A (2)    | A (2)    |
|                                                                                      | PM        | -        | -        | A (2.7)  | A (2.7)  |
| 2027 Build                                                                           | AM        | -        | -        | A (2.2)  | A (2.2)  |
|                                                                                      | PM        | -        | -        | A (3.1)  | A (3.1)  |
| 2032 Build+5                                                                         | AM        | -        | -        | A (2.6)  | A (2.6)  |
|                                                                                      | PM        | -        | -        | A (3.7)  | A (3.7)  |

| 4 - Stallings Road and Monroe Expressway WB Ramp  |    |          |          |          |          |
|---------------------------------------------------|----|----------|----------|----------|----------|
| 2020 Existing                                     | AM | C (2.63) | C (2.38) | C (2.54) | B (2.02) |
|                                                   | PM | C (2.66) | B (2.45) | C (2.85) | B (2.01) |
| 2027 Background                                   | AM | C (3.37) | C (2.78) | C (3.18) | B (2.13) |
|                                                   | PM | C (3.34) | C (2.79) | C (3.31) | B (2.12) |
| 2027 Build                                        | AM | C (3.38) | C (2.81) | C (3.2)  | B (2.14) |
|                                                   | PM | C (3.36) | C (2.82) | C (3.32) | B (2.14) |
| 2032 Build+5                                      | AM | C (3.45) | C (2.85) | C (3.45) | B (2.18) |
|                                                   | PM | C (3.43) | C (2.87) | D (3.56) | B (2.18) |
| 5 - Stallings Road and Monroe Expressway EB Ramp  |    |          |          |          |          |
| 2020 Existing                                     | AM | C (2.39) | C (2.67) | B (2.04) | B (1.86) |
|                                                   | PM | B (2.44) | C (2.82) | B (2.09) | B (1.93) |
| 2027 Background                                   | AM | C (2.78) | C (3.26) | B (2.17) | B (2.1)  |
|                                                   | PM | C (2.83) | C (3.49) | B (2.19) | B (2.11) |
| 2027 Build                                        | AM | C (2.79) | C (3.28) | B (2.16) | B (2.15) |
|                                                   | PM | C (2.84) | C (3.56) | B (2.19) | B (2.15) |
| 2032 Build+5                                      | AM | C (2.83) | C (3.37) | B (2.18) | B (2.21) |
|                                                   | PM | C (2.89) | C (3.66) | B (2.22) | B (2.22) |
| 6 - Stallings Road and Matthews-Indian Trail Road |    |          |          |          |          |
| 2020 Existing                                     | AM | C (2.37) | C (2.29) | B (2.26) | B (2.09) |
|                                                   | PM | B (2.36) | B (2.33) | B (2.16) | B (2.07) |
| 2027 Background                                   | AM | C (2.62) | C (2.5)  | B (2.34) | B (2.3)  |
|                                                   | PM | C (2.67) | C (2.56) | B (2.23) | B (2.28) |
| 2027 Build                                        | AM | C (2.62) | C (2.51) | B (2.34) | B (2.3)  |
|                                                   | PM | C (2.68) | C (2.57) | B (2.23) | B (2.28) |
| 2027 Build Improved                               | AM | C (2.74) | C (2.6)  | B (2.41) | B (2.36) |
|                                                   | PM | C (2.79) | C (2.68) | B (2.27) | B (2.34) |
| 7 - Mt Harmony Church Rd and Stevens Mill Road    |    |          |          |          |          |
| 2020 Existing                                     | AM | C (14.4) | D (22.2) | -        | -        |
|                                                   | PM | C (11.2) | C (17.1) | -        | -        |
| 2027 Background                                   | AM | D (20.4) | E (32.4) | -        | -        |
|                                                   | PM | C (15.9) | D (24.8) | -        | -        |
| 2027 Build                                        | AM | D (20.4) | E (32.4) | -        | -        |
|                                                   | PM | C (15.9) | D (24.8) | -        | -        |
| 2032 Build+5                                      | AM | D (26.6) | E (43.2) | -        | -        |
|                                                   | PM | D (20.3) | E (32.1) | -        | -        |
| 8 - Oakspring Rd and Stevens Mill Road            |    |          |          |          |          |
| 2020 Existing                                     | AM | -        | -        | D (21.4) | D (21.4) |
|                                                   | PM | -        | -        | C (18.6) | C (18.6) |
| 2027 Background                                   | AM | -        | -        | E (38.1) | E (38.1) |
|                                                   | PM | -        | -        | E (33.1) | E (33.1) |
| 2027 Build                                        | AM | -        | -        | E (38.1) | E (38.1) |
|                                                   | PM | -        | -        | E (33.1) | E (33.1) |
| 2032 Build+5                                      | AM | -        | -        | F (57.1) | F (57.1) |
|                                                   | PM | -        | -        | F (48.2) | F (48.2) |
| 9 - Stallings Road and Access 1                   |    |          |          |          |          |
| 2027 Build                                        | AM | E (41)   | E (41)   | -        | -        |
|                                                   | PM | F (54)   | F (54)   | -        | -        |
| 2032 Build+5                                      | AM | F (58.6) | F (58.6) | -        | -        |
|                                                   | PM | F (79.4) | F (79.4) | -        | -        |
| 10 - Oakspring Rd and Access 2                    |    |          |          |          |          |
| 2027 Build                                        | AM | E (41.8) | E (41.8) | -        | -        |
|                                                   | PM | D (28.2) | D (28.2) | -        | -        |
| 2032 Build+5                                      | AM | F (61.9) | F (61.9) | -        | -        |
|                                                   | PM | E (39)   | E (39)   | -        | -        |
| 11 - Sweet Birch Drive and Access 3               |    |          |          |          |          |
| 2027 Build                                        | AM | -        | -        | A (1.5)  | A (1.5)  |
|                                                   | PM | -        | -        | A (2.1)  | A (2.1)  |
| 2032 Build+5                                      | AM | -        | -        | A (1.8)  | A (1.8)  |
|                                                   | PM | -        | -        | A (2.5)  | A (2.5)  |

As shown in **Table 8.1**, the following intersections do not warrant mitigation based on Town of Stallings pedestrian mitigation thresholds:

- Stallings Road and Stevens Mill Road
- Sweet Birch Drive and Nouvelle Drive
- Stallings Road and Monroe Expressway WB Ramp
- Stallings Road and Monroe Expressway EB Ramp
- Stallings Road and Matthews-Indian Trail Road
- Stevens Mill Road and Mt. Harmony Church Road
- Stevens Mill Road and Oakspring Road
- Sweet Birch Drive and Access #3

Pedestrian mitigation is warranted at the following intersections:

- Stallings Road and Sweet Birch Drive
- Stallings Road and Access #1
- Oakspring Drive and Access #2

To mitigate these increased pedestrian delays, the following pedestrian improvements should be implemented, consistent with the current Town pedestrian plan:

- Construction of a sidewalk along the frontage of the proposed site
- Construct the portion of the Carolina Thread Trail planned within the proposed site
  - These are referred to as North Fork Crooked Creek Greenway West, Sweet Birch Connector, and North Fork Neighborhood Connector in the Connect Stallings Recreation & Greenway Master Plan
  - Final alignments should be coordinated with Town staff through the site planning process

### Bicycle Operations Analysis

The HCM does not provide methodology to analyze the operations of bicyclists at unsignalized intersections. As shown in the approved MOU, the Charlotte Department of Transportation's (CDOT) Bicycle LOS Worksheet was used to determine the bicycle levels-of-service. The CDOT Bicycle LOS Worksheet assesses bicyclists' comfort based on geometric and traffic signal features including, but not limited to:

- Number of lanes crossed
- Presence of conflicting turning movements
- Presence of bike lanes
- Left-turn phase treatment (permitted green, protected green, leading green)

Intersection features are assigned points, as identified by CDOT in the worksheet. LOS for each approach is calculated based on the accumulation of points for each geometric and traffic signal feature identified in the worksheet. A higher number of points correlates to a better LOS. The LOS thresholds for CDOT's Bicycle LOS Worksheet are shown in **Table 8.2**.

| Table 8.2<br>Bicycle LOS Thresholds |         |
|-------------------------------------|---------|
| Level-of-Service                    | Points  |
| A                                   | 93+     |
| B                                   | 74 – 92 |
| C                                   | 55 – 73 |
| D                                   | 37 – 54 |
| E                                   | 19 – 36 |
| F                                   | 0 – 18  |

CDOT's Bicycle LOS Worksheet was originally developed to assess the operations of bicycles at signalized intersections. Based on review of the inputs related to traffic signals, the worksheet was used to evaluate bicycle LOS at unsignalized intersections in this study using the following assumptions to better reflect unsignalized operations:

- Opposing vehicle left-turns were permitted (made on Green Ball only)
- Right-turn-on-red was permitted

**Table 8.3** summarizes the LOS for bicyclists at the study area intersections. CDOT's Bicycle LOS Worksheet does not take into account demand volumes; therefore, the bicycle LOS does not adjust or differ between AM and PM peak hours, nor does it differ for future-year scenarios unless the intersection laneage is modified. The bicycle LOS calculation worksheets are included in the **Appendix**.



| Table 8.3 - Bicycle Operations                |                               |         |         |         |         |                |
|-----------------------------------------------|-------------------------------|---------|---------|---------|---------|----------------|
| Condition                                     | Condition                     | EB      | WB      | NB      | SB      | Intersection   |
| 1. Stallings Road and Stevens Mill Road       | Existing                      | E (25)  | E (25)  | E (25)  | E (25)  | <b>E (25)</b>  |
|                                               | Background & Build            | F (10)  | F (10)  | F (10)  | F (10)  | <b>F (10)</b>  |
|                                               | Build Improved                | F (10)  | F (5)   | F (10)  | F (10)  | <b>F (9)</b>   |
| 2. Stallings Road and Sweet Birch Drive       | Existing, Background, & Build | -       | C+ (70) | F (5)   | D- (40) | <b>D- (38)</b> |
|                                               | Build Improved                | -       | C+ (70) | F (5)   | D- (40) | <b>D- (38)</b> |
| 3. Sweet Birch Drive and Nouvelle Drive       | All Scenarios                 | D (50)  | B (85)  | C+ (70) | -       | <b>C (68)</b>  |
| 4. Stallings Rd at Monroe Expressway WB Ramp  | Existing, Background, & Build | -       | E+ (35) | C (60)  | E (25)  | <b>D- (40)</b> |
| 5. Stallings Rd at Monroe Expressway EB Ramp  | Existing                      | E+ (35) | -       | D (50)  | C (60)  | <b>E (32)</b>  |
|                                               | Background & Build            | E+ (35) | -       | D (50)  | C (60)  | <b>E (32)</b>  |
| 6. Stallings Rd at Matthews-Indian Trail Rd   | All Scenarios                 | F (5)   | E (30)  | E (30)  | E (30)  | <b>E (30)</b>  |
| 7. Mt Harmony Church Rd and Stevens Mill Road | All Scenarios                 | D (45)  | D (45)  | E (30)  | E (30)  | <b>D- (38)</b> |
| 8. Oakspring Rd and Stevens Mill Road         | Existing                      | F (5)   | D- (40) | D (50)  | -       | <b>E (32)</b>  |
|                                               | Background & Build            | F (5)   | D- (40) | D (50)  | -       | <b>E (32)</b>  |
| 9. Stallings Road and Access 1                | Build                         | C+ (70) | C- (56) | F (5)   | F (5)   | <b>E+ (34)</b> |
| 10. Oakspring Rd and Access 2                 | Build                         | C+ (70) | -       | C (65)  | E (30)  | <b>C- (55)</b> |
| 11. Sweet Birch Drive and Access 3            | Build                         | B (85)  | D (50)  | -       | C+ (70) | <b>C (68)</b>  |

**Table 8.3** shows that all intersections are projected to operate in the LOS C to LOS F range under all analysis scenarios. The poor LOS along Stallings Road, Matthews-Indian Trail Road, and Oakspring Road is primarily attributed to speeds greater than 30 mph, lack of bicycle facilities and bicyclist conflicts with left- and right-turning vehicular movements. It should be noted that based on existing counts, very few bicyclists currently navigate routes through the study area intersections.

## 8.1 TRANSIT FACILITIES

There are currently no transit stops in the proximity of the study area.

The Town of Stallings is currently being evaluated to be included in the Charlotte Area Transit System (CATS) LYNX Silver Line. The LYNX Silver Line is a proposed 26-mile light rail project from the City of Belmont in Gaston County, through Center City Charlotte and the Town of the Matthews, with a potential extension into Union County. Several alternatives are currently be considered for the future alignment through Stallings, several of which would cross Stallings Road in the vicinity of the Monroe Expressway and Matthews-Indian Trail Road

## 9.0 Crash Data Analysis

Crash data was obtained at the study intersections for crashes that occurred between July 1, 2017 and June 30, 2020. For the intersections at the Monroe Expressway, due to the recent construction, crash data was only available between November 1, 2018 and June 30, 2020. Over this three-year period, 62 total crashes were reported at the existing study intersections. The summaries below only reflect crashes reported at the existing study intersections. The breakdown of crashes at these study intersections by severity, frequency and crash type are shown in the tables below.

**Table 9.1 – Crash Severity Summary**

| Crash Type           | Number of Crashes |
|----------------------|-------------------|
| Fatal Crashes        | 0                 |
| Class A              | 0                 |
| Class B              | 6                 |
| Class C              | 4                 |
| Property Damage Only | 52                |
| <b>Total</b>         | <b>62</b>         |

**Table 9.1** above displays the total number of crashes by severity type from most to least severe. As shown, there were no fatal crashes reported and 16% of the crashes involved injury or possible injury at the study intersections over the past three years. The crash types are defined as follows:

- Class A - crashes where serious injury is suspected and can include significant loss of blood or broken bones.
- Class B - crashes where minor injury is suspected, such as bruises or minor cuts.
- Class C - crashes wherein possible injuries occur, which are injuries reported by the person or indicated by his/her behavior, but no wounds or injuries are physically present, such as limping or complaint of neck pain.
- Property Damage Only (PDO) – crashes where no injury is reported.

**Table 9.2 – Crash Frequency Summary**

| Location                                      | Crashes/100 MEV |
|-----------------------------------------------|-----------------|
| Stallings Road and Stevens Mill Road          | 66.95           |
| Stallings Road and Monroe Expressway WB       | 29.90           |
| Stallings Road and Monroe Expressway EB       | 388.64          |
| Stallings Road and Matthews-Indian Trail Road | 41.71           |
| Stevens Mill Road and Mt. Harmony Church Road | 59.52           |
| Stevens Mill Road and Oakspring Road          | 138.89          |
| Stallings Road and Sweet Birch Drive          | 13.83           |
| Sweet Birch Drive and Nouvelle Drive          | N/A             |
| <b>Average</b>                                | <b>92.73</b>    |

**Table 9.2** shows the crash rates at the study area intersections resulted in a weighted average crash rate of 92.73 crashes per 100 million entering vehicles (MEV), with the highest rate occurring at the signalized intersection of Stallings Road and Monroe Expressway EB. There have been 26 reported crashes over the two-year period reported at this intersection.

**Table 9.3 – Crash Type Summary**

|                               | Stallings Road and Stevens Mill Road | Stallings Road and Monroe Expressway WB | Stallings Road and Monroe Expressway EB | Stevens Mill Road and Mt. Harmony Church Road | Stevens Mill Road and Oakspring Road | Stallings Road and Matthews-Indian Road | Stallings Road and Sweet Birch Drive | Sweet Birch Drive and Nouvelle Drive |
|-------------------------------|--------------------------------------|-----------------------------------------|-----------------------------------------|-----------------------------------------------|--------------------------------------|-----------------------------------------|--------------------------------------|--------------------------------------|
| Angle                         | 3                                    | 1                                       | 9                                       | 3                                             | 3                                    | 3                                       | 0                                    | 0                                    |
| Animal                        | 0                                    | 0                                       | 0                                       | 0                                             | 0                                    | 1                                       | 0                                    | 0                                    |
| Fixed Object                  | 0                                    | 0                                       | 1                                       | 0                                             | 0                                    | 0                                       | 0                                    | 0                                    |
| Left-Turn, Different Roadways | 1                                    | 0                                       | 1                                       | 0                                             | 0                                    | 0                                       | 0                                    | 0                                    |
| Ran off Road - Straight       | 0                                    | 0                                       | 0                                       | 0                                             | 6                                    | 0                                       | 0                                    | 0                                    |
| Ran off Road - Left           | 0                                    | 0                                       | 0                                       | 0                                             | 1                                    | 0                                       | 0                                    | 0                                    |
| Ran off Road - Right          | 1                                    | 0                                       | 0                                       | 0                                             | 0                                    | 0                                       | 0                                    | 0                                    |
| Rear End, Slow or Stop        | 1                                    | 1                                       | 11                                      | 0                                             | 3                                    | 4                                       | 1                                    | 0                                    |
| Sideswipe, Same Direction     | 1                                    | 0                                       | 4                                       | 0                                             | 0                                    | 0                                       | 0                                    | 0                                    |
| Sideswipe, Opposite Direction | 1                                    | 0                                       | 0                                       | 0                                             | 1                                    | 0                                       | 0                                    | 0                                    |
| <b>Total</b>                  | <b>8</b>                             | <b>2</b>                                | <b>26</b>                               | <b>3</b>                                      | <b>14</b>                            | <b>8</b>                                | <b>1</b>                             | <b>0</b>                             |

The most common crash types reported at the study area intersections were angle crashes (35%) and rear-end collisions caused by slowing or stopping vehicles (34%). These types of crashes are often associated with increased congestion at both signalized and unsignalized intersections. As shown in **Table 9.3**, angle and rear-end collisions occurred at six of the eight existing study area intersections.

Crash data provided by NCDOT is included in the **Appendix**.

## 10.0 Identified Mitigation Improvements

Based on the vehicular, pedestrian, and bicycle operations analyses performed at each of the identified study intersections, along with review of the auxiliary turn-lane warrants and crash analyses contained herein, the following improvements are identified to mitigate the impact of the proposed development on the surrounding transportation infrastructure:

### **Stallings Road and Stevens Mill Road**

- Construction of a westbound left-turn lane with 250 feet of storage

### **Stallings Road and Sweet Birch Drive**

- Construction of a westbound right-turn lane with 100 feet of storage

### **Stevens Mill Road and Oakspring Road**

- Construction of an eastbound right-turn lane with 100 feet of storage

### **Stallings Road and Access #1**

- Construction of a northbound left-turn with 100 feet of storage
- Construction of a northbound right-turn with 100 feet of storage
- Construction of a southbound left-turn with 100 feet of storage
- Construction of a single lane ingress/egress on the westbound approach with an internal protected stem of 100 feet
- Construction of a single lane ingress/egress on the eastbound approach with an internal protected stem of 100 feet

### **Oakspring Road and Access #2**

- Construction of a single lane ingress/egress on the eastbound approach with an internal protected stem of 100 feet
- Construction of a northbound left-turn lane with 100 feet of storage

### **Sweet Birch Drive and Access #3**

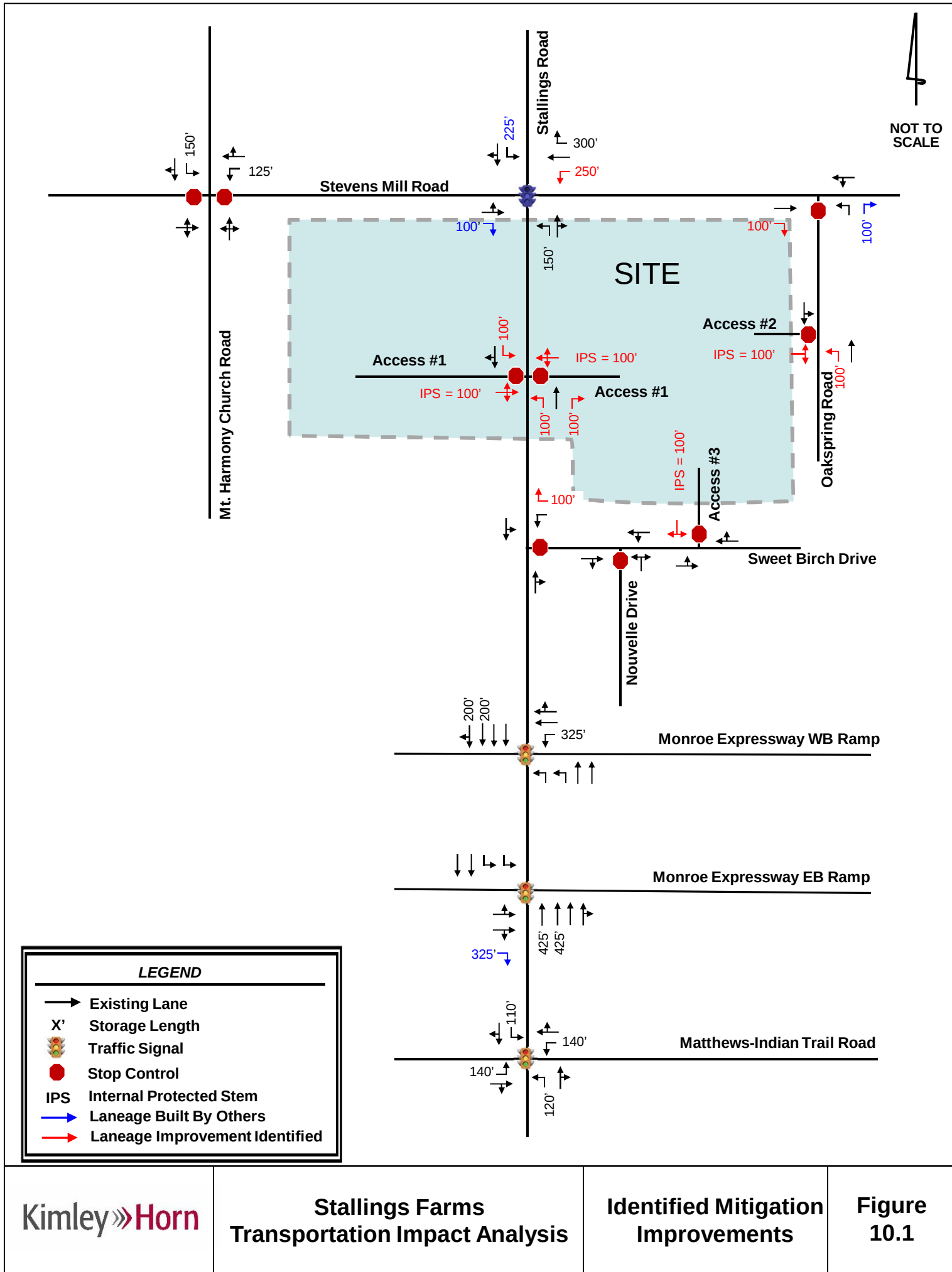
- Construction of a single lane ingress/egress on the southbound approach with an internal protected stem of 100 feet

### **Study Area Pedestrian and Bicycle Improvements**

- Construction of a sidewalk along the frontage of the proposed site
- Construct the portion of the Carolina Thread Trail planned within the proposed site
  - These are referred to as North Fork Crooked Creek Greenway West, Sweet Birch Connector, and North Fork Neighborhood Connector in the Connect Stallings Recreation & Greenway Master Plan
  - Final alignments should be coordinated with Town staff through the site planning process

The mitigation improvements identified within the study area are shown in **Figure 10.1**. The improvements shown on this figure are subject to approval by NCDOT and the Town of Stallings. All additions and attachments to the State and Town roadway system shall be properly permitted, designed and constructed in conformance to standards maintained by the agencies.

Per NCDOT and the Town, this development will be able to plat, build, and sell up to 50 lots without construction of any roadway improvements. In order to plat, build, or sell the 51<sup>st</sup> lot, the development must install all the required roadway improvements in order to accommodate the additional traffic the site will generate.





## APPENDIX

# Appendix



# TIA Memorandum of Understanding





## Town of Stallings

### TIA Memorandum of Understanding

Date: March 12, 2020

#### Project Information

Project Name: Stallings Farms  
Project Location: S. of Stevens Mill Rd. at Stallings Rd  
Project Owner: Stallings Farm Investment, LLC

#### Applicant Information

Applicant Name: Dave Sierk  
Applicant Telephone: -  
Applicant Email: dsierk1@gmail.com

Application Request: Small Area Plan  
(eg. Rezoning, preliminary or final plat, special use permit, site plan, etc.)

#### Existing

Existing Zoning: MU-1  
Existing Land Use: Undeveloped  
Parcel Size: ± 83.12 acres

#### Proposed Development

Proposed Zoning: MU-1 (Small Area Plan)  
Proposed Land Use: Single Family Detached Homes  
Proposed Size/Density: 222 dwelling units  
Proposed Build-Out Year: 2027

#### Scenarios to be Analyzed:

- ☒ 2020 Existing Conditions  
☒ 2027 Background Conditions  
☒ 2027 Build Conditions  
☒ 2032 Build Conditions + 5 years  
☐ Other: \_\_\_\_\_

Background Growth Rate: 3.5% (based on study area ADTs and Atrium Stallings TIA)

Count Times: ☒ 6:00–9:00 AM, 4:00–7:00 PM ☐ Other: \_\_\_\_\_

Future Offsite Developments (Name of Development, Location, Land Use, Density, TIA info. if applicable):

| Development                                            | Land Use/Intensity                                                                                                                             | % Build-out | TIA Included? | Required Improvements                                                                                                                                                                                                                   |
|--------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Atrium Stallings                                       | 160,000 SF Hospital<br>80,000 SF MOB<br>20,000 SF Retail<br>15,000 SF HTSD<br>5,000 SF Fast Food<br>300 Mid-Rise Apartments<br>150 Hotel Rooms | 0%          | Yes           | Consistent with Phase 2 of TIA (proposed 2024 build-out)                                                                                                                                                                                |
| Union Park Townhomes<br>(Stallings Road Townhomes TIA) | 217 Townhomes                                                                                                                                  | 0%          | Yes           | <b>Stallings Rd/Stevens Mill Rd</b> <ul style="list-style-type: none"><li>Restripe NB approach to a shared through-left and dedicated right</li></ul>                                                                                   |
| Willows at Stallings                                   | 345 Mid-Rise Apartments                                                                                                                        | 0%          | Yes           | <b>Stallings Rd/Stevens Mill Rd</b> <ul style="list-style-type: none"><li>Traffic signal</li><li>Extend SBR to 225'</li></ul> <b>Stevens Mill Rd/Oakspring Rd</b> <ul style="list-style-type: none"><li>NBR with 100' storage</li></ul> |
| Harmony Hills                                          | 123 Townhomes                                                                                                                                  | 0%          | No            | None                                                                                                                                                                                                                                    |
| Oakspring Development                                  | 174 Single Family Homes                                                                                                                        | 0%          | No            | None                                                                                                                                                                                                                                    |

**Funded TIP/CIP projects (Name of Project, Location, Improvements, Schedule):**

- John Street/Old Monroe Road Widening (U-4714AC) – *Outside TIA study area*
  - Widen to multi-lanes from Trade Street to Wesley Chapel-Stouts Road (superstreet on some locations)
  - Right-of-way in FY 2020-2021
  - Construction in FY 2022-2025
- Chestnut Lane Connector (U-5808) – *Outside TIA study area*
  - Construct new roadway from Matthews-Indian Trail Road to Gribble Road
  - Right-of-way in FY 2020 (In Progress)
  - Construction in FY 2021-2022

**Projects identified in adopted Transportation Plans (Name of Project, Location, Improvements, Schedule):**

- Connect Stallings Recreation and Greenway Master Plan
  - Central Spine Loop Trail (CS1)
  - Sweet Birch Connector (C4)
  - North Fork Neighborhood Connector (C5)
- Enhanced Intersection at Stallings Road and Stevens Mill Road (C-5)
  - Provide safe pedestrian crossing opportunities at the center of the Stallings School Node.
  - Coordinate improvements with Stallings Elementary School and the Monroe Bypass project.
- Enhanced Intersection at Stallings Road and US 74 (C-7)
  - Provide safe pedestrian crossing opportunities to improve the pedestrian connection of the north and south sides of Town.
  - Coordinate improvements with Monroe Bypass project.
- Crossing at Stevens Mill Road and Whetstone Drive (C-15)
  - Provide a safe pedestrian crossing at a prominent intersection of the Stallings School Node
- Crossing of Stallings Rd. at North Fork Creek (South branch) (C-18)
  - Provide a safe pedestrian crossing for the North Fork Trail (project T-3) at Stallings Road at the south end of the Stallings School Node.
- Stallings Rd., part 1 (4,700' sidewalk facilities) (S-5)
  - Connect existing sidewalk along Stallings Road south of US 74 (at project C-7), and North Fork Trail (project T-3) to Stevens Mill Rd., along east side of Stallings Rd.
- Stallings Rd., part 2 (2,100' sidewalk facilities) (S-9)
  - Connect the Stallings School Node to Fairhaven Park, the North Fork Trail (project T-3), adjacent residential areas, and the existing Stevens Mill sidewalk.
- North Fork Trail (T-3)
  - Connect the Stallings School Node to residential neighborhoods and Fairhaven Park, existing sidewalks, and areas south of US 74.

**Trip Generation Table (ITE 10<sup>th</sup> Edition):**

| Table 1 - Trip Generation |           |       |              |    |     |              |     |     |
|---------------------------|-----------|-------|--------------|----|-----|--------------|-----|-----|
| Land Use                  | Intensity | Daily | AM Peak Hour |    |     | PM Peak Hour |     |     |
|                           |           |       | Total        | In | Out | Total        | In  | Out |
| Single-Family Homes       | 222 DU    | 2,166 | 162          | 41 | 121 | 218          | 137 | 81  |
| Net New External Trips    |           | 2,166 | 162          | 41 | 121 | 218          | 137 | 81  |

**Proposed Access:**

- Access #1 – proposed full-movement access on Stallings Road
- Access #2 – proposed full-movement access on Oakspring Road
- Access #3 – proposed full-movement access on Sweet Birch Drive



**Intersections to be Studied:**

| Intersection                                                  | Type of Analysis                    |                                     |
|---------------------------------------------------------------|-------------------------------------|-------------------------------------|
|                                                               | Signalized                          | Unsignalized                        |
| 1. Stallings Road and Stevens Mill Road <sup>*</sup>          | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| 2. Stallings Road and Sweet Birch Drive <sup>^</sup>          | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 3. Sweet Birch Drive and Nouvelle Drive <sup>^</sup>          | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 4. Stallings Road and Monroe Expressway WB Ramp <sup>^</sup>  | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| 5. Stallings Road and Monroe Expressway EB Ramp <sup>^</sup>  | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| 6. Stallings Road and Matthews-Indian Trail Road <sup>^</sup> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| 7. Stevens Mill Road and Mt. Harmony Church Road              | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 8. Stevens Mill Road and Oakspring Road                       | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 9. Stallings Road and Access #1                               | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 10. Oakspring Road and Access #2                              | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 11. Sweet Birch Drive and Access #3                           | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

<sup>\*</sup> 13 hour turning movement counts to be collected

<sup>^</sup> New turning movement counts to be collected (no existing counts or prior counts from February 2019)

☒ **Other Considerations (i.e. pedestrian, transit, other scenarios):**

- A weighted peak hour factor (PHF) will be used in the AM peak hour to capture impacts of the adjacent school
- Pedestrian LOS analysis at study area intersections using Highway Capacity Manual (HCM) 6<sup>th</sup> Edition methodologies
- Bicycle LOS analysis at study area intersections using CDOT's *Bicycle Level of Service* worksheet
- Turn lanes and storage lengths for the major street (uncontrolled) approaches at unsignalized intersections will be identified using NCDOT's *Policy on Street and Driveway Access to North Carolina Highways*

☒ **Traffic Signal Warrants:** Stallings Road and Stevens Mill Road

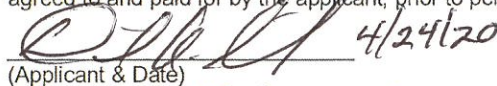
☒ **Crash Analysis Required:**

- At existing study intersections, based on most recent 3 years available

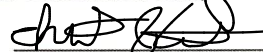
☐ **Additional Traffic Analysis (i.e. Synchro, VISSIM, SIDRA, etc.):** N/A

**Agreement by all Parties**

The undersigned agree to the contents and methodology described in this Memorandum of Understanding (MOU) for completing the required TIA supportive of the development application identified herein. Any changes to the above methodology contemplated by the applicant or transportation consultant must be submitted to the Town in writing and a revised MOU executed before such changes will be accepted for the TIA report. The applicant must provide payment in full to the Town for preparation of the TIA prior to commencement of the work. Any additional services incurred by the transportation consultant in addition to the MOU must be approved by the Town, and agreed to and paid for by the applicant, prior to performance of the additional work.

 4/24/20  
(Applicant & Date)

 3/12/20  
(Transportation Consultant & Date)

Approved by:  8/3/2020  
(Town Engineer & Date)

NCDOT Involvement Needed? ☒ Yes ☐ No If Yes, contact NCDOT at (704) 218-5100 for requirements.

NCDOT Required Scoping

\_\_\_\_\_  
(NCDOT & Date, if Applicable)

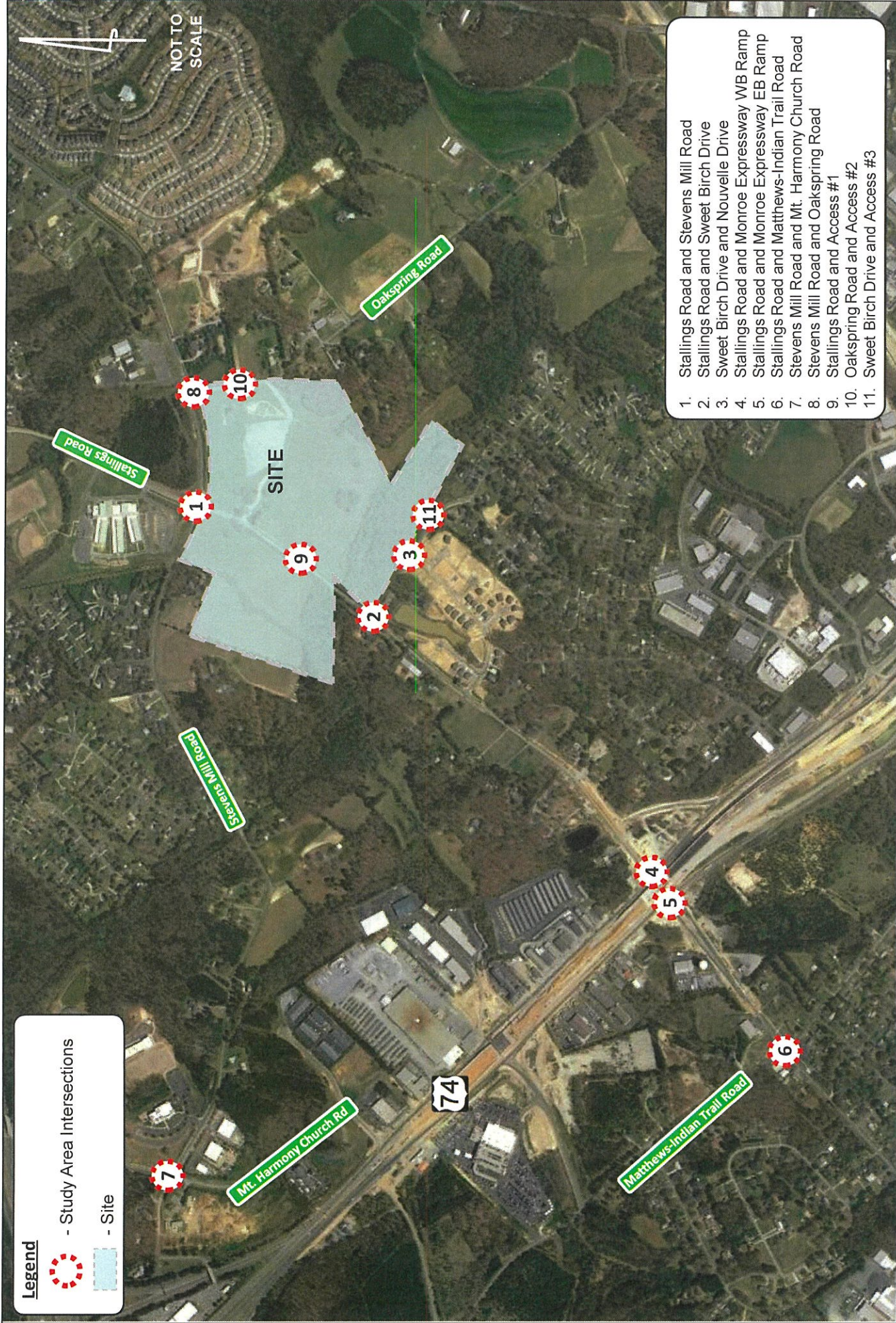
**Attachments:**

1. Proposed Site Plan
2. Location Map
3. Proposed Site Trip Distribution



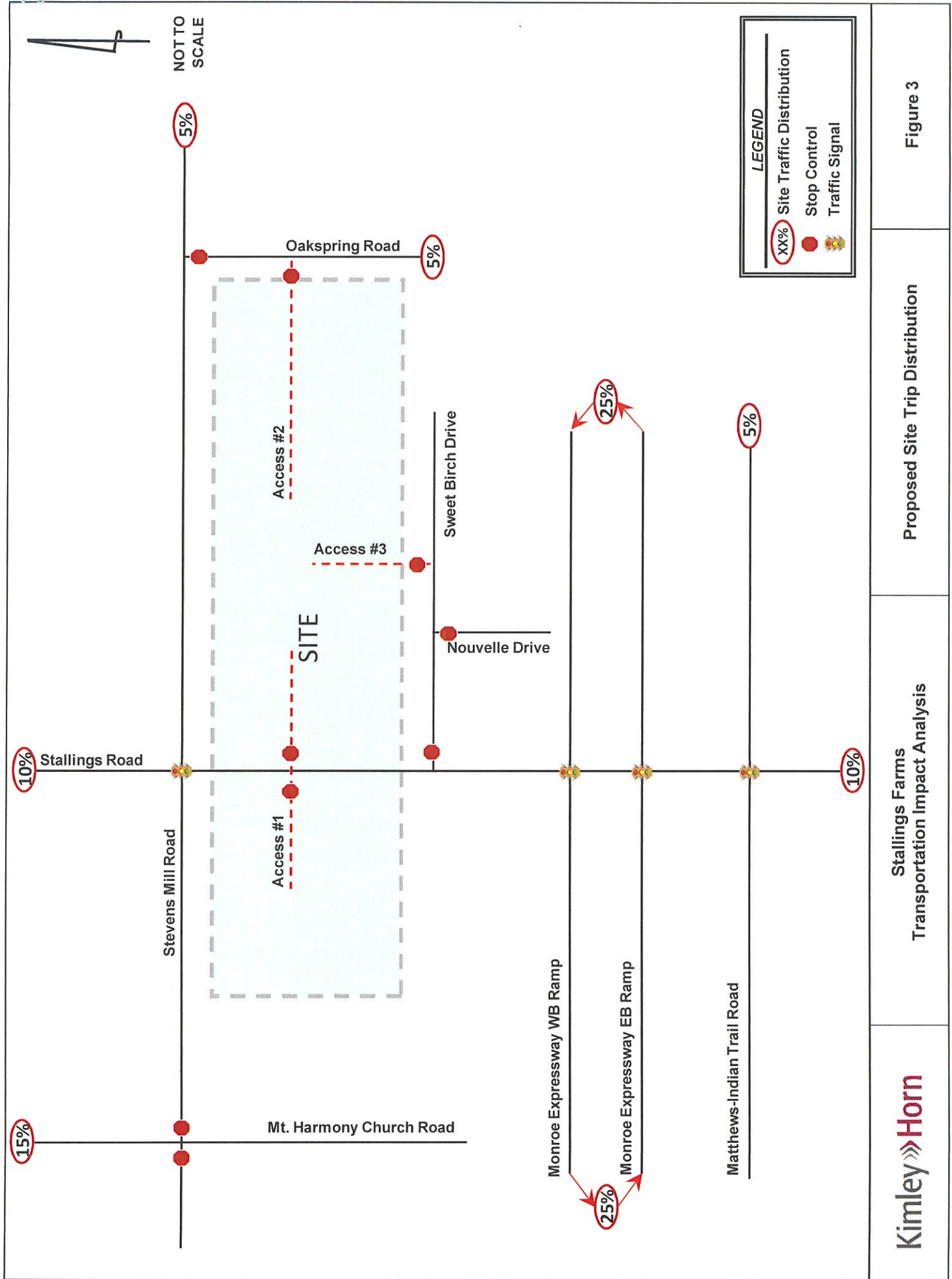






|  |                                                           |                     |                 |
|--|-----------------------------------------------------------|---------------------|-----------------|
|  | <p>Stallings Farms<br/>Transportation Impact Analysis</p> | <p>Location Map</p> | <p>Figure 2</p> |
|--|-----------------------------------------------------------|---------------------|-----------------|





# Site Plan







TAX PIN - 07099018D  
OWNER - STALLINGS ELEMENTARY SCHOOL  
(UNION COUNTY BOARD OF EDUCATION)  
DEED REFERENCE - 5134-609  
(NOW OR FORMERLY)  
ZONING: CZ

EAGLECREST SUBDIVISION  
ZONING: SFR-2

TAX PIN - 07099007A  
OWNER - TURNER, CHARLES R & MAXINE W  
DEED REFERENCE - 410-902  
(NOW OR FORMERLY)  
ZONING: MU-1

TAX PIN - 07099008C  
OWNER - TURNER, CHARLES R & MAXINE W  
DEED REFERENCE - 3188-260  
(NOW OR FORMERLY)  
ZONING: MU-1

TAX PIN - 07099008  
OWNER - BOLES JOHN R & GAYLE P  
DEED REFERENCE - 421-426  
(NOW OR FORMERLY)  
ZONING: MU-1

TAX PIN - 07099005  
OWNER - KINARD, DARRELL LEE  
DEED REFERENCE - 7149-038  
(NOW OR FORMERLY)  
ZONING: MU-1

TAX PIN - 07099018  
OWNER - WC & C, INC.  
DEED REFERENCE - 4129-463  
(NOW OR FORMERLY)  
ZONING: MU-1

TAX PIN - 07078012  
OWNER - WILSON RICKY D &  
WIFE JUANITA N WILSON  
DEED REFERENCE - 1107-898  
(NOW OR FORMERLY)  
ZONING: MU-1

TAX PIN - 07078012D  
OWNER - ORR ROBERT CLAYTON &  
DONNA BARTLETT  
DEED REFERENCE - 4058-305  
(NOW OR FORMERLY)  
ZONING: MU-1

TAX PIN - 07102153  
OWNER - MCKEE, TED GARY  
DEED REFERENCE - ?  
(NOW OR FORMERLY)  
ZONING: MU-1

TAX PIN - 07102153B  
OWNER - MCKEE, LARRY MAX, SR.  
DEED REFERENCE - 6184-009  
(NOW OR FORMERLY)  
ZONING: MU-1

TAX PIN - 07102152  
OWNER - MEEK, JOHN N  
DEED REFERENCE - 7282-777  
(NOW OR FORMERLY)  
ZONING: MU-1

TAX PIN - 07102154B  
OWNER - ORR, DANIEL FLOYD, JR.  
DEED REFERENCE - ?  
(NOW OR FORMERLY)  
ZONING: MU-1

TAX PIN - 07102155  
OWNER - WARRINGTON, RANDAL ROE, ET AL  
DEED REFERENCE - 6274-514  
(NOW OR FORMERLY)  
ZONING: MU-1

## SITE AND DEVELOPMENT DATA

|                                                                           |                                            |
|---------------------------------------------------------------------------|--------------------------------------------|
| JURISDICTION                                                              | TOWN OF STALLINGS                          |
| TAX PARCEL(S)                                                             | 07099006 & 07099007                        |
| SITE ADDRESS                                                              | STALLINGS RD & STEVENS MILL RD             |
| ZONING                                                                    | MU-1                                       |
| PROPOSED ZONING                                                           | MU-1                                       |
| USE CLASSIFICATION                                                        | MIXED USE                                  |
| TOTAL AREA                                                                | 83.12 AC. (TRACTS 1 & 2 DB. 5932, PG. 590) |
| COMMON AREA                                                               | 19.4 ACRES DEDICATED TO TOWN               |
| COMMON AREA                                                               | 11.87 ACRES                                |
| RIGHT-OF-WAY                                                              | 3.73 ACRES (TO BE DEDICATED TO NCDOT)      |
| PRODUCT DESCRIPTION                                                       |                                            |
| WEST TRACT (61 LOTS)                                                      |                                            |
| 48- 40' WIDE (MIN.), 6,000 SQ. FT. SINGLE FAMILY LOTS                     |                                            |
| 19 - 60' WIDE (MIN.), 6,000 SQ. FT. SINGLE FAMILY LOTS (FRONT LOAD UNITS) |                                            |
| EAST TRACT (155 LOTS)                                                     |                                            |
| 83 - 40' WIDE (MIN.), 6,000 SQ. FT. SINGLE FAMILY LOTS                    |                                            |
| 22 - 51' WIDE (MIN.), 6,000 SQ. FT. SINGLE FAMILY LOTS                    |                                            |
| 48 - 60' WIDE (MIN.), 6,000 SQ. FT. SINGLE FAMILY LOTS (FRONT LOAD UNITS) |                                            |
| SETBACKS:                                                                 |                                            |
| FRONT - 16', REAR - 12', SIDE - 5'                                        |                                            |
| 220 LOTS TOTAL                                                            |                                            |
| DISTURBED AREA                                                            |                                            |
| 48 ACRES ±                                                                |                                            |
| SIGHT DISTANCE AT ENTRANCES DESIGN PER NCDOT STANDARDS                    |                                            |
| ROAD IMPROVEMENTS (IF ANY), TO BE DETERMINED                              |                                            |
| INTERIOR STREET DESIGN PER TOWN OF STALLINGS STANDARDS                    |                                            |

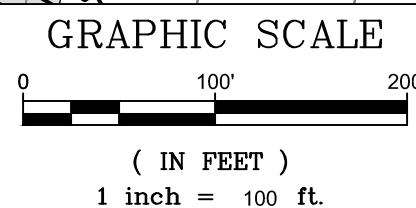


STALLINGS FARMS  
STALLINGS, NC  
STALLINGS FARM INVESTMENT, LLC.  
2500 W. ROOSEVELT BLVD.  
MONROE, NC 28110

CONCEPTUAL SITE PLAN  
STALLINGS ELEMENTARY  
SCHOOL NODE  
PARCEL 21 & PARCEL 22  
DESIGNED BY JHR/KEL  
DRAWN BY KEL  
CHECKED BY JHR  
JOB NUMBER 6463  
DATE 11/19/20  
AS SHOWN

PRELIMINARY  
NOT FOR  
CONSTRUCTION

EXHIBIT









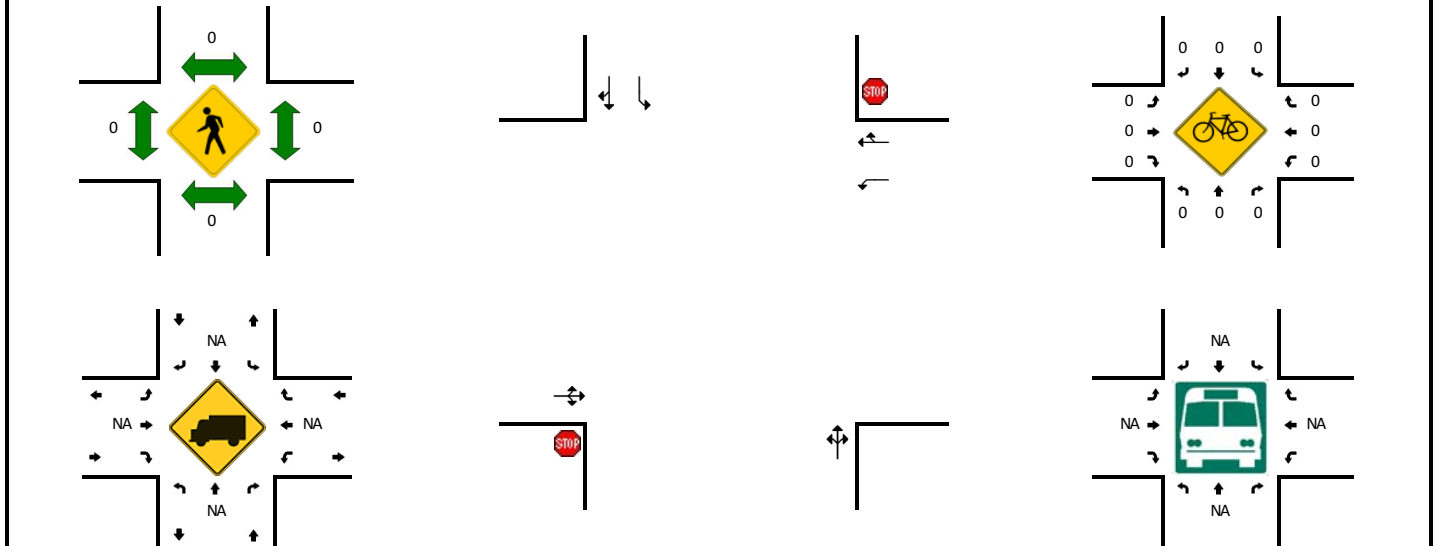
## Turning Movement Counts



**LOCATION:** Mt. Harmony Church Rd -- Stevens Mill Rd  
**CITY/STATE:** Mecklenburg, NC

**QC JOB #:** 15038501  
**DATE:** Tue, Sep 10 2019

**Peak-Hour: 7:00 AM -- 8:00 AM**  
**Peak 15-Min: 7:30 AM -- 7:45 AM**



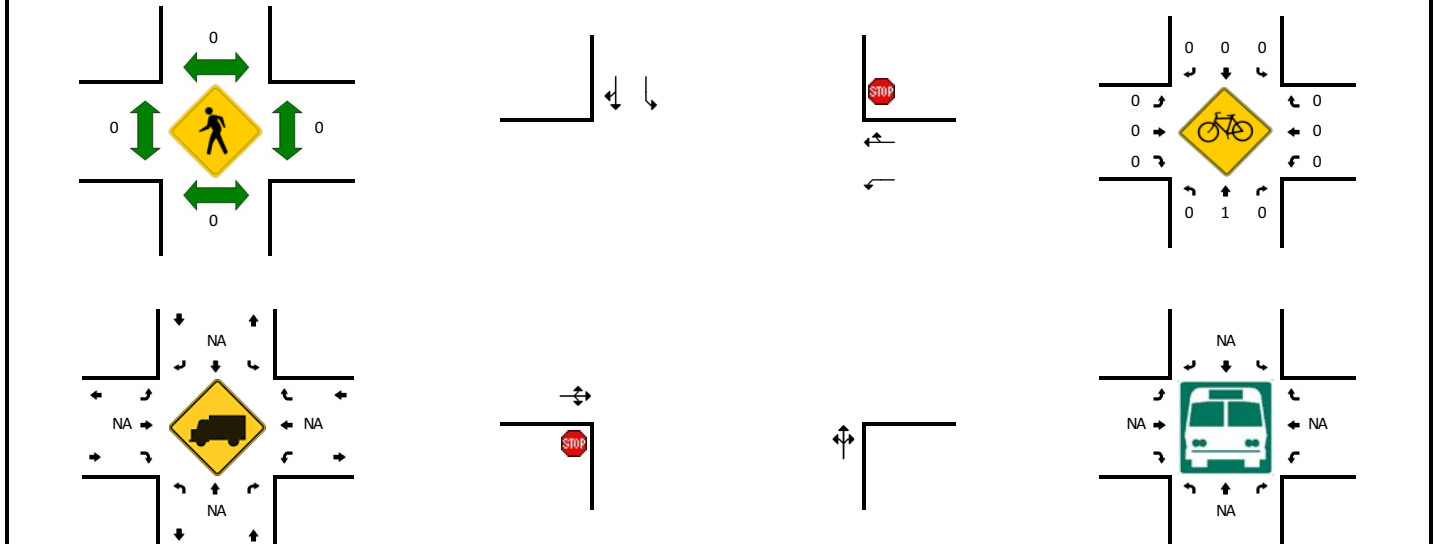
| 15-Min Count Period Beginning At | Mt. Harmony Church Rd (Northbound) |      |       |   | Mt. Harmony Church Rd (Southbound) |      |       |   | Stevens Mill Rd (Eastbound) |      |       |   | Stevens Mill Rd (Westbound) |      |       |   | Total | Hourly Totals |
|----------------------------------|------------------------------------|------|-------|---|------------------------------------|------|-------|---|-----------------------------|------|-------|---|-----------------------------|------|-------|---|-------|---------------|
|                                  | Left                               | Thru | Right | U | Left                               | Thru | Right | U | Left                        | Thru | Right | U | Left                        | Thru | Right | U |       |               |
| 6:00 AM                          | 0                                  | 3    | 0     | 0 | 0                                  | 3    | 2     | 0 | 0                           | 0    | 0     | 0 | 1                           | 0    | 4     | 0 | 13    |               |
| 6:15 AM                          | 1                                  | 1    | 0     | 0 | 2                                  | 2    | 1     | 0 | 0                           | 0    | 0     | 0 | 0                           | 1    | 11    | 0 | 19    |               |
| 6:30 AM                          | 2                                  | 6    | 2     | 1 | 3                                  | 10   | 1     | 0 | 0                           | 0    | 0     | 0 | 2                           | 1    | 12    | 0 | 40    |               |
| 6:45 AM                          | 2                                  | 5    | 2     | 0 | 6                                  | 11   | 8     | 0 | 0                           | 0    | 0     | 0 | 1                           | 1    | 16    | 0 | 52    | 124           |
| 7:00 AM                          | 4                                  | 13   | 7     | 0 | 22                                 | 5    | 4     | 0 | 1                           | 0    | 2     | 0 | 3                           | 4    | 33    | 0 | 98    | 209           |
| 7:15 AM                          | 0                                  | 22   | 13    | 0 | 45                                 | 18   | 3     | 0 | 0                           | 0    | 0     | 0 | 9                           | 0    | 71    | 0 | 181   | 371           |
| 7:30 AM                          | 0                                  | 35   | 17    | 0 | 32                                 | 16   | 7     | 0 | 1                           | 0    | 0     | 0 | 16                          | 0    | 78    | 0 | 202   | 533           |
| 7:45 AM                          | 2                                  | 21   | 6     | 0 | 15                                 | 22   | 2     | 0 | 4                           | 3    | 0     | 0 | 11                          | 3    | 48    | 0 | 137   | 618           |
| 8:00 AM                          | 3                                  | 16   | 6     | 0 | 6                                  | 9    | 2     | 0 | 6                           | 0    | 0     | 0 | 4                           | 1    | 25    | 0 | 78    | 598           |
| 8:15 AM                          | 3                                  | 15   | 5     | 0 | 5                                  | 9    | 0     | 0 | 3                           | 2    | 0     | 0 | 6                           | 0    | 31    | 0 | 79    | 496           |
| 8:30 AM                          | 0                                  | 20   | 3     | 0 | 5                                  | 4    | 2     | 0 | 0                           | 0    | 0     | 0 | 1                           | 0    | 23    | 0 | 58    | 352           |
| 8:45 AM                          | 0                                  | 6    | 1     | 0 | 5                                  | 8    | 1     | 0 | 1                           | 1    | 0     | 0 | 1                           | 0    | 17    | 0 | 41    | 256           |
| Peak 15-Min Flowrates            | Northbound                         |      |       |   | Southbound                         |      |       |   | Eastbound                   |      |       |   | Westbound                   |      |       |   | Total |               |
|                                  | Left                               | Thru | Right | U | Left                               | Thru | Right | U | Left                        | Thru | Right | U | Left                        | Thru | Right | U |       |               |
| All Vehicles                     | 0                                  | 140  | 68    | 0 | 128                                | 64   | 28    | 0 | 4                           | 0    | 0     | 0 | 64                          | 0    | 312   | 0 | 808   |               |
| Heavy Trucks                     | 0                                  | 4    | 4     |   | 0                                  | 0    | 4     |   | 0                           | 0    | 0     |   | 0                           | 0    | 4     |   | 16    |               |
| Pedestrians                      | 0                                  | 0    |       |   | 0                                  | 0    |       |   | 0                           | 0    |       |   | 0                           | 0    |       |   | 0     |               |
| Bicycles                         | 0                                  | 0    | 0     |   | 0                                  | 0    | 0     |   | 0                           | 0    | 0     |   | 0                           | 0    | 0     |   | 0     |               |
| Railroad                         |                                    |      |       |   |                                    |      |       |   |                             |      |       |   |                             |      |       |   |       |               |
| Stopped Buses                    |                                    |      |       |   |                                    |      |       |   |                             |      |       |   |                             |      |       |   |       |               |

Comments:

**LOCATION:** Mt. Harmony Church Rd -- Stevens Mill Rd  
**CITY/STATE:** Mecklenburg, NC

**QC JOB #:** 15038502  
**DATE:** Tue, Sep 10 2019

**Peak-Hour: 4:30 PM -- 5:30 PM**  
**Peak 15-Min: 5:00 PM -- 5:15 PM**

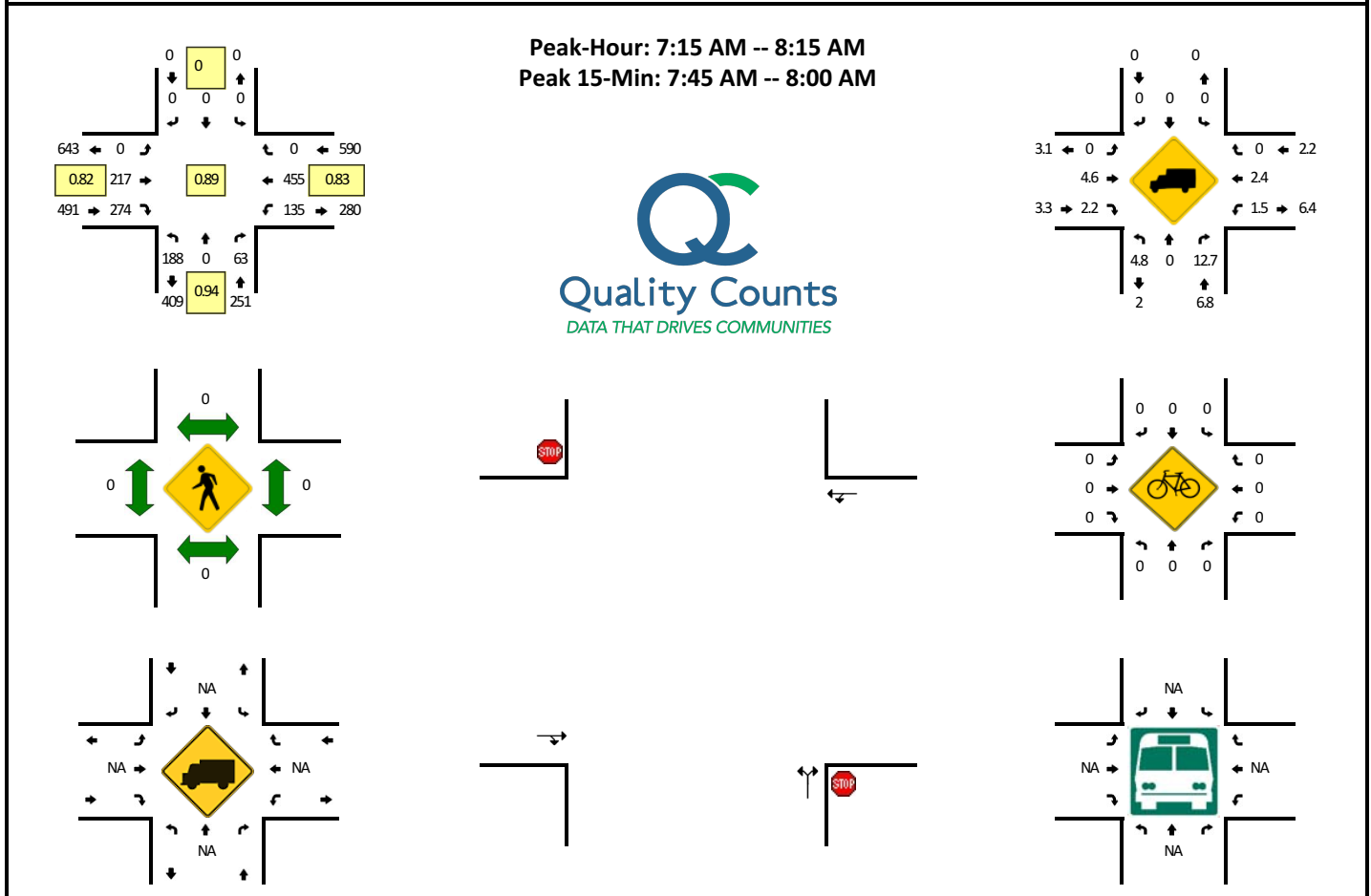


| 15-Min Count Period Beginning At | Mt. Harmony Church Rd (Northbound) |      |       |   | Mt. Harmony Church Rd (Southbound) |      |       |   | Stevens Mill Rd (Eastbound) |      |       |   | Stevens Mill Rd (Westbound) |      |       |   | Total | Hourly Totals |
|----------------------------------|------------------------------------|------|-------|---|------------------------------------|------|-------|---|-----------------------------|------|-------|---|-----------------------------|------|-------|---|-------|---------------|
|                                  | Left                               | Thru | Right | U | Left                               | Thru | Right | U | Left                        | Thru | Right | U | Left                        | Thru | Right | U |       |               |
| 4:00 PM                          | 0                                  | 19   | 5     | 1 | 7                                  | 6    | 0     | 0 | 5                           | 2    | 1     | 0 | 0                           | 0    | 16    | 0 | 62    |               |
| 4:15 PM                          | 1                                  | 13   | 3     | 0 | 18                                 | 6    | 0     | 0 | 0                           | 1    | 1     | 0 | 2                           | 0    | 9     | 0 | 54    |               |
| 4:30 PM                          | 0                                  | 27   | 18    | 0 | 20                                 | 9    | 0     | 0 | 2                           | 0    | 0     | 0 | 1                           | 0    | 10    | 0 | 87    |               |
| 4:45 PM                          | 1                                  | 16   | 9     | 0 | 15                                 | 8    | 0     | 0 | 3                           | 4    | 1     | 1 | 4                           | 1    | 10    | 0 | 73    | 276           |
| 5:00 PM                          | 0                                  | 26   | 17    | 0 | 31                                 | 10   | 1     | 0 | 2                           | 0    | 0     | 0 | 0                           | 0    | 8     | 0 | 95    | 309           |
| 5:15 PM                          | 1                                  | 23   | 10    | 1 | 28                                 | 8    | 0     | 0 | 1                           | 1    | 0     | 0 | 1                           | 0    | 9     | 0 | 83    | 338           |
| 5:30 PM                          | 0                                  | 10   | 10    | 0 | 20                                 | 7    | 1     | 0 | 2                           | 7    | 2     | 0 | 0                           | 0    | 5     | 0 | 64    | 315           |
| 5:45 PM                          | 0                                  | 28   | 9     | 0 | 30                                 | 4    | 0     | 0 | 0                           | 0    | 2     | 0 | 3                           | 0    | 8     | 0 | 84    | 326           |
| 6:00 PM                          | 0                                  | 21   | 13    | 0 | 25                                 | 5    | 0     | 0 | 0                           | 0    | 0     | 0 | 2                           | 0    | 11    | 0 | 77    | 308           |
| 6:15 PM                          | 0                                  | 16   | 4     | 0 | 20                                 | 9    | 0     | 0 | 0                           | 0    | 0     | 0 | 0                           | 0    | 18    | 0 | 67    | 292           |
| 6:30 PM                          | 0                                  | 7    | 3     | 0 | 22                                 | 14   | 2     | 0 | 0                           | 0    | 1     | 0 | 2                           | 0    | 4     | 0 | 55    | 283           |
| 6:45 PM                          | 0                                  | 15   | 7     | 0 | 19                                 | 3    | 1     | 0 | 0                           | 1    | 0     | 0 | 2                           | 0    | 10    | 0 | 58    | 257           |
| Peak 15-Min Flowrates            | Northbound                         |      |       |   | Southbound                         |      |       |   | Eastbound                   |      |       |   | Westbound                   |      |       |   | Total |               |
|                                  | Left                               | Thru | Right | U | Left                               | Thru | Right | U | Left                        | Thru | Right | U | Left                        | Thru | Right | U |       |               |
| All Vehicles                     | 0                                  | 104  | 68    | 0 | 124                                | 40   | 4     | 0 | 8                           | 0    | 0     | 0 | 0                           | 0    | 32    | 0 | 380   |               |
| Heavy Trucks                     | 0                                  | 0    | 4     | 0 | 4                                  | 4    | 0     | 0 | 0                           | 0    | 0     | 0 | 0                           | 0    | 4     | 0 | 16    |               |
| Pedestrians                      | 0                                  | 0    | 0     | 0 | 0                                  | 0    | 0     | 0 | 0                           | 0    | 0     | 0 | 0                           | 0    | 0     | 0 | 0     |               |
| Bicycles                         | 0                                  | 0    | 0     | 0 | 0                                  | 0    | 0     | 0 | 0                           | 0    | 0     | 0 | 0                           | 0    | 0     | 0 | 0     |               |
| Railroad                         |                                    |      |       |   |                                    |      |       |   |                             |      |       |   |                             |      |       |   |       |               |
| Stopped Buses                    |                                    |      |       |   |                                    |      |       |   |                             |      |       |   |                             |      |       |   |       |               |

**Comments:**

**LOCATION:** Oakspring Rd -- Stevens Mill Rd  
**CITY/STATE:** Union, NC

**QC JOB #:** 15038503  
**DATE:** Tue, Sep 10 2019

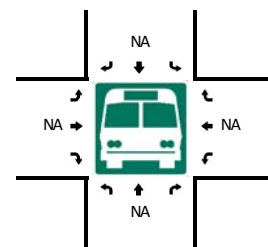
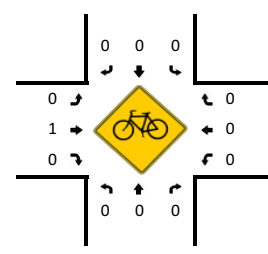
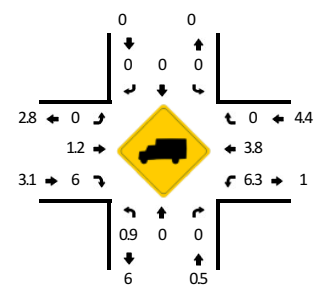


| 15-Min Count Period Beginning At | Oakspring Rd (Northbound) |      |       |   | Oakspring Rd (Southbound) |      |       |   | Stevens Mill Rd (Eastbound) |      |       |   | Stevens Mill Rd (Westbound) |      |       |   | Total | Hourly Totals |
|----------------------------------|---------------------------|------|-------|---|---------------------------|------|-------|---|-----------------------------|------|-------|---|-----------------------------|------|-------|---|-------|---------------|
|                                  | Left                      | Thru | Right | U | Left                      | Thru | Right | U | Left                        | Thru | Right | U | Left                        | Thru | Right | U |       |               |
| 6:00 AM                          | 6                         | 0    | 2     | 1 | 0                         | 0    | 0     | 0 | 0                           | 6    | 6     | 0 | 5                           | 20   | 0     | 0 | 46    |               |
| 6:15 AM                          | 11                        | 0    | 0     | 0 | 0                         | 0    | 0     | 0 | 0                           | 8    | 22    | 0 | 9                           | 32   | 0     | 0 | 82    |               |
| 6:30 AM                          | 24                        | 0    | 2     | 0 | 0                         | 0    | 0     | 0 | 0                           | 15   | 28    | 0 | 10                          | 61   | 0     | 0 | 140   |               |
| 6:45 AM                          | 28                        | 0    | 8     | 0 | 0                         | 0    | 0     | 0 | 0                           | 16   | 35    | 0 | 14                          | 66   | 0     | 0 | 167   | 435           |
| 7:00 AM                          | 35                        | 0    | 8     | 0 | 0                         | 0    | 0     | 0 | 0                           | 20   | 36    | 0 | 13                          | 98   | 0     | 0 | 210   | 599           |
| 7:15 AM                          | 52                        | 0    | 15    | 0 | 0                         | 0    | 0     | 0 | 0                           | 33   | 61    | 0 | 29                          | 80   | 0     | 0 | 270   | 787           |
| 7:30 AM                          | 52                        | 0    | 15    | 0 | 0                         | 0    | 0     | 0 | 0                           | 29   | 77    | 0 | 42                          | 106  | 0     | 0 | 321   | 968           |
| 7:45 AM                          | 43                        | 0    | 13    | 0 | 0                         | 0    | 0     | 0 | 0                           | 61   | 80    | 0 | 22                          | 156  | 0     | 0 | 375   | 1176          |
| 8:00 AM                          | 41                        | 0    | 20    | 0 | 0                         | 0    | 0     | 0 | 0                           | 94   | 56    | 0 | 42                          | 113  | 0     | 0 | 366   | 1332          |
| 8:15 AM                          | 45                        | 0    | 20    | 0 | 0                         | 0    | 0     | 0 | 0                           | 31   | 35    | 0 | 12                          | 59   | 0     | 0 | 202   | 1264          |
| 8:30 AM                          | 29                        | 0    | 10    | 0 | 0                         | 0    | 0     | 0 | 0                           | 27   | 26    | 0 | 10                          | 66   | 0     | 0 | 168   | 1111          |
| 8:45 AM                          | 23                        | 0    | 11    | 0 | 0                         | 0    | 0     | 0 | 0                           | 22   | 21    | 0 | 12                          | 71   | 0     | 0 | 160   | 896           |
| Peak 15-Min Flowrates            | Northbound                |      |       |   | Southbound                |      |       |   | Eastbound                   |      |       |   | Westbound                   |      |       |   | Total |               |
|                                  | Left                      | Thru | Right | U | Left                      | Thru | Right | U | Left                        | Thru | Right | U | Left                        | Thru | Right | U |       |               |
| All Vehicles                     | 172                       | 0    | 52    | 0 | 0                         | 0    | 0     | 0 | 0                           | 244  | 320   | 0 | 88                          | 624  | 0     | 0 | 1500  |               |
| Heavy Trucks                     | 4                         | 0    | 12    |   | 0                         | 0    | 0     |   | 0                           | 12   | 12    |   | 0                           | 16   | 0     |   | 56    |               |
| Pedestrians                      | 0                         | 0    | 0     |   | 0                         | 0    | 0     |   | 0                           | 0    | 0     |   | 0                           | 0    | 0     |   | 0     |               |
| Bicycles                         | 0                         | 0    | 0     |   | 0                         | 0    | 0     |   | 0                           | 0    | 0     |   | 0                           | 0    | 0     |   | 0     |               |
| Railroad                         |                           |      |       |   |                           |      |       |   |                             |      |       |   |                             |      |       |   |       |               |
| Stopped Buses                    |                           |      |       |   |                           |      |       |   |                             |      |       |   |                             |      |       |   |       |               |

**Comments:**

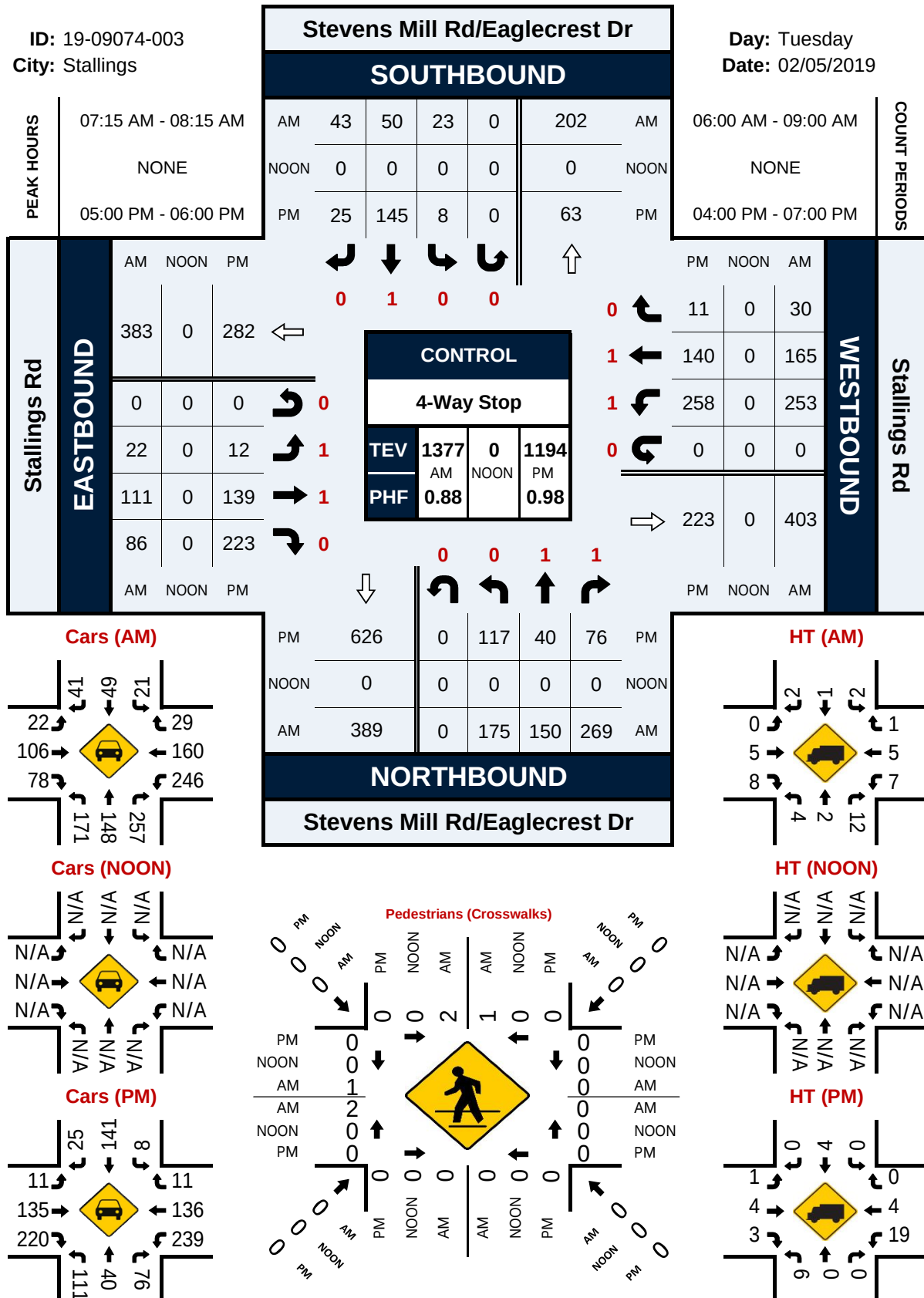


**QC JOB #:** 15038504  
**DATE:** Tue, Sep 10 2019



*Comments:*

**Day:** Tuesday  
**Date:** 02/05/2019



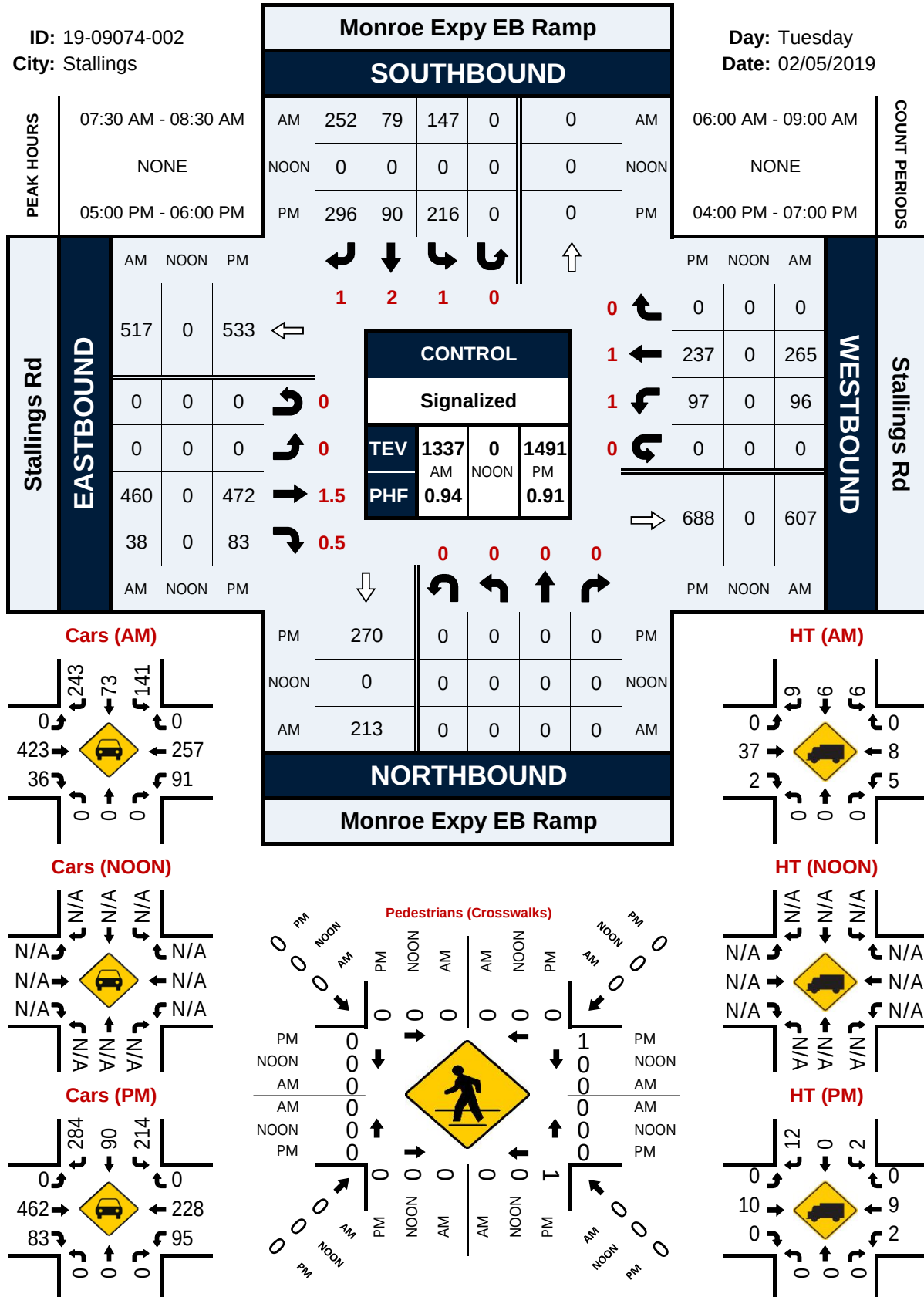


# Monroe Expy EB Ramp & Stallings Rd

## Peak Hour Turning Movement Count

ID: 19-09074-002  
City: Stallings

Day: Tuesday  
Date: 02/05/2019

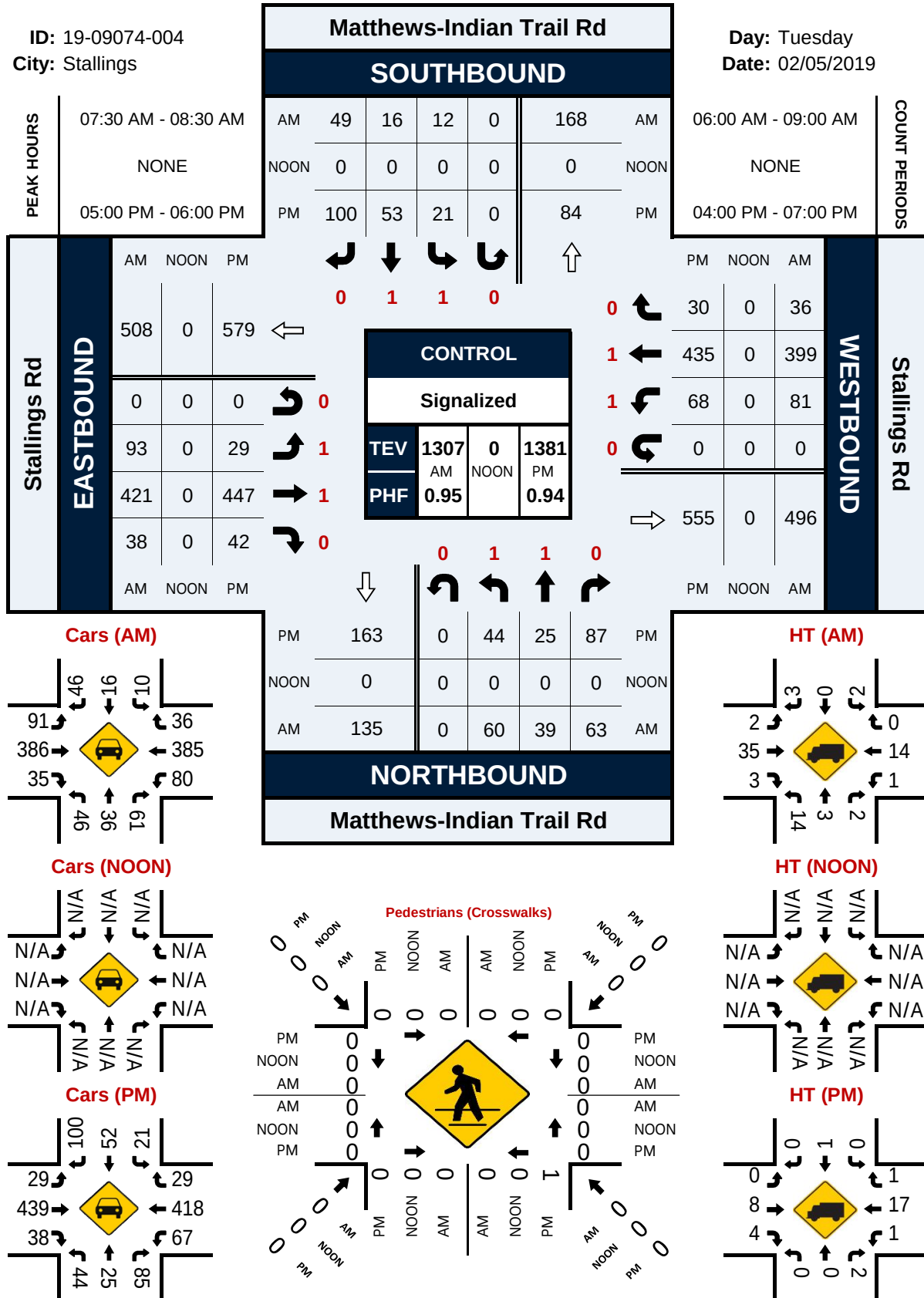


# Matthews-Indian Trail Rd & Stallings Rd

## Peak Hour Turning Movement Count

ID: 19-09074-004  
City: Stallings

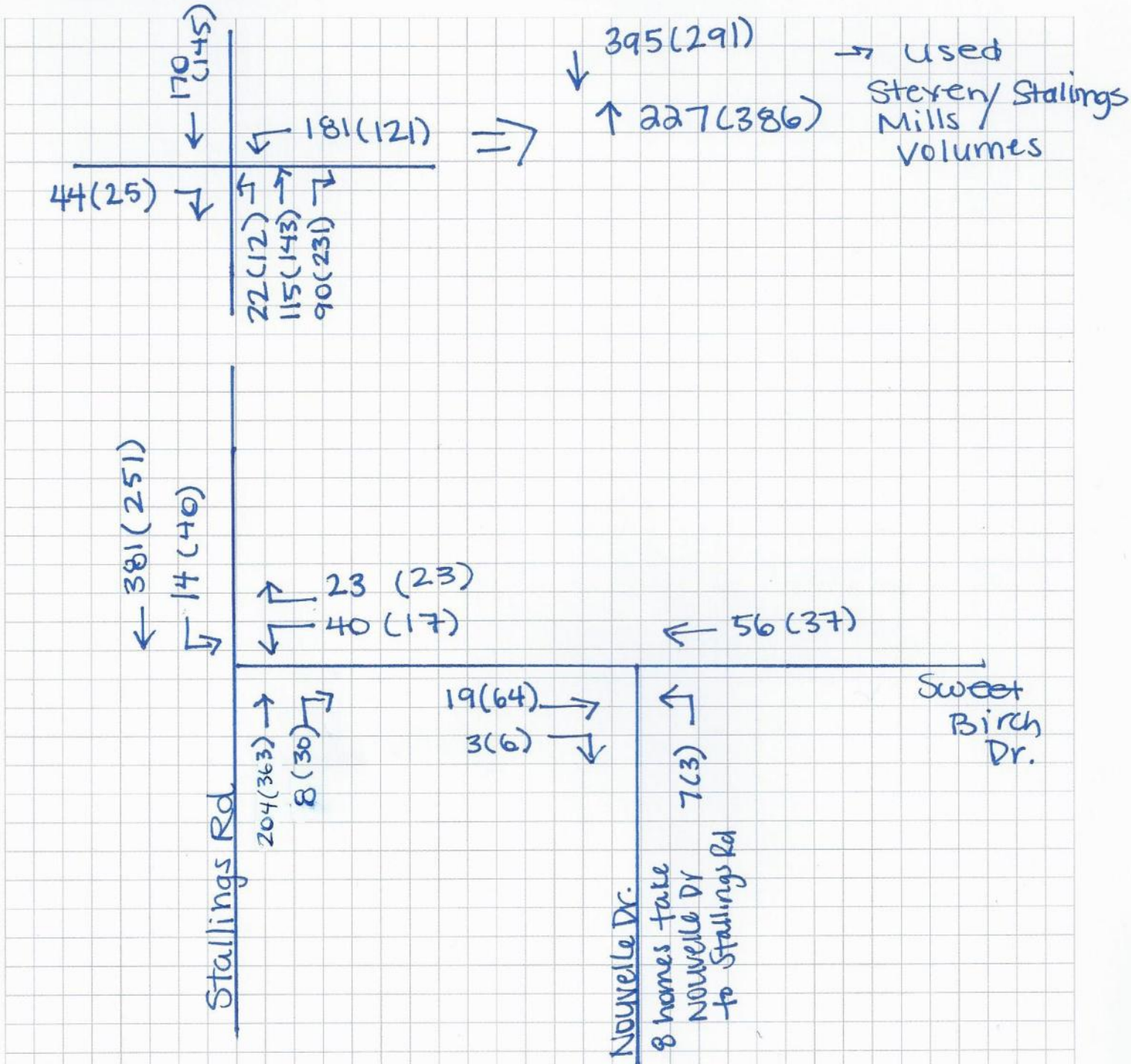
Day: Tuesday  
Date: 02/05/2019





# Sweet Birch Drive Intersections Volume Development





Trip Generation for 99 homes

for 8 homes

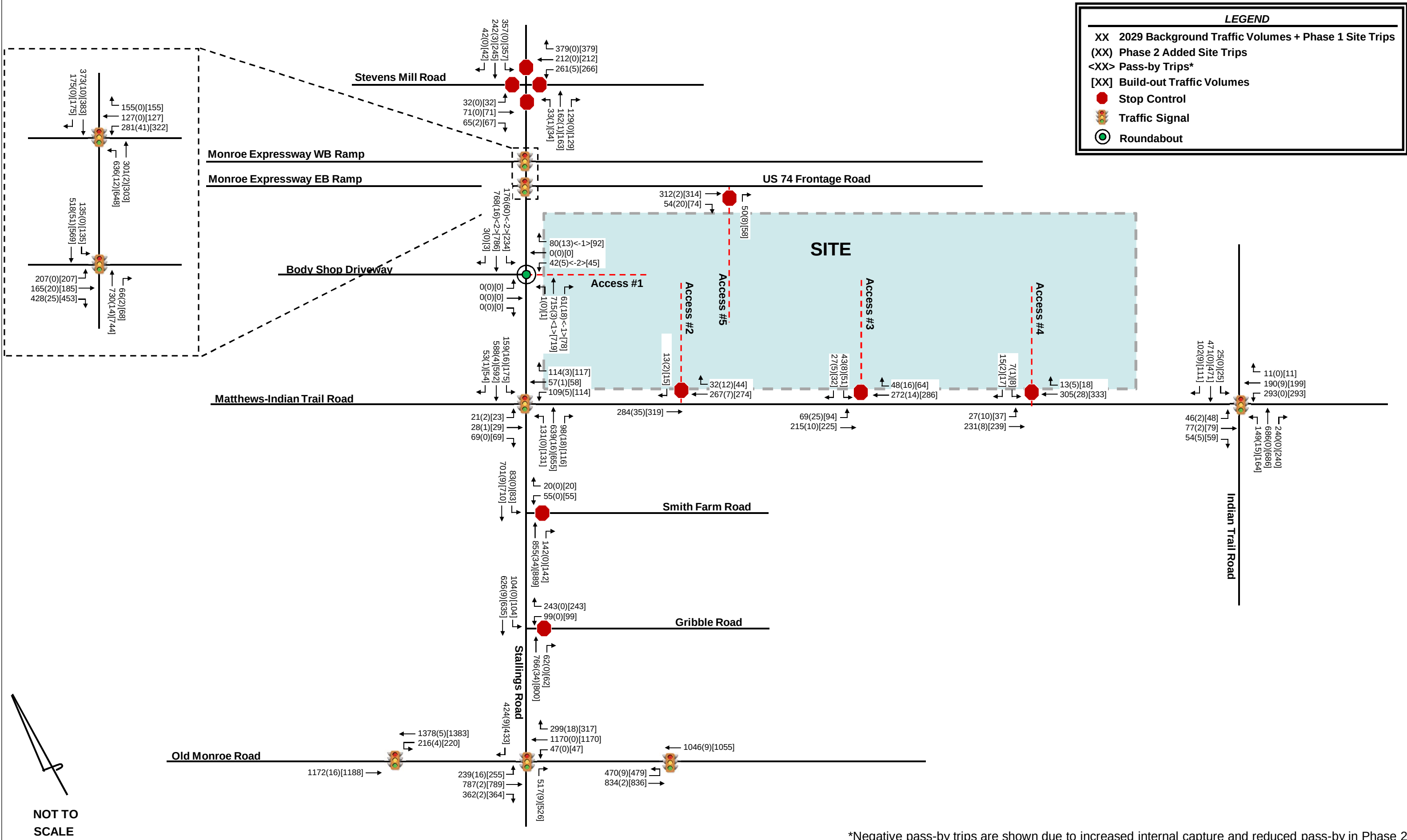
|    | <u>IN</u> | <u>OUT</u> |    | <u>IN</u> | <u>OUT</u> |
|----|-----------|------------|----|-----------|------------|
| AM | 19        | 56         | AM | 3         | 7          |
| PM | 64        | 37         | PM | 6         | 3          |



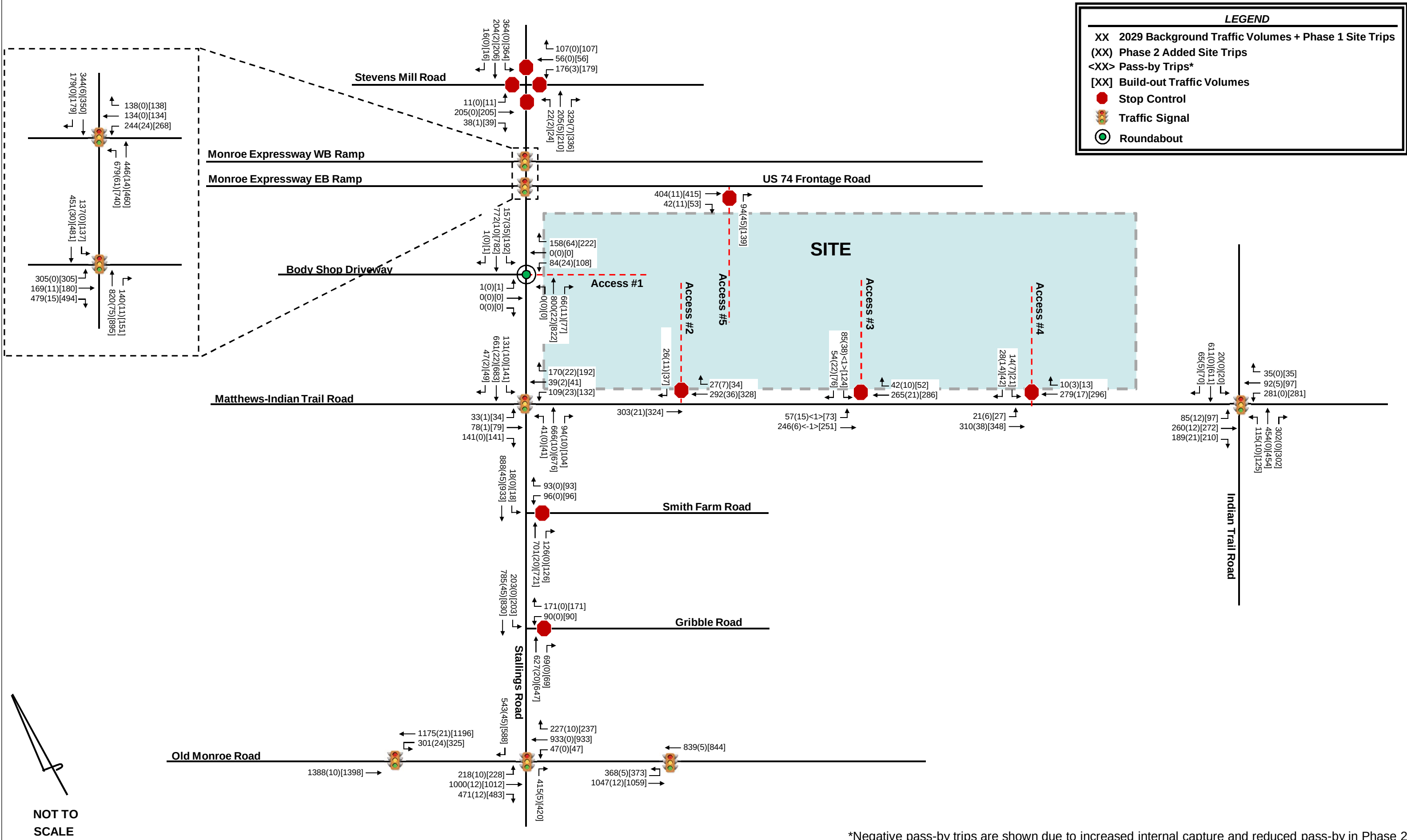
## Approved Developments

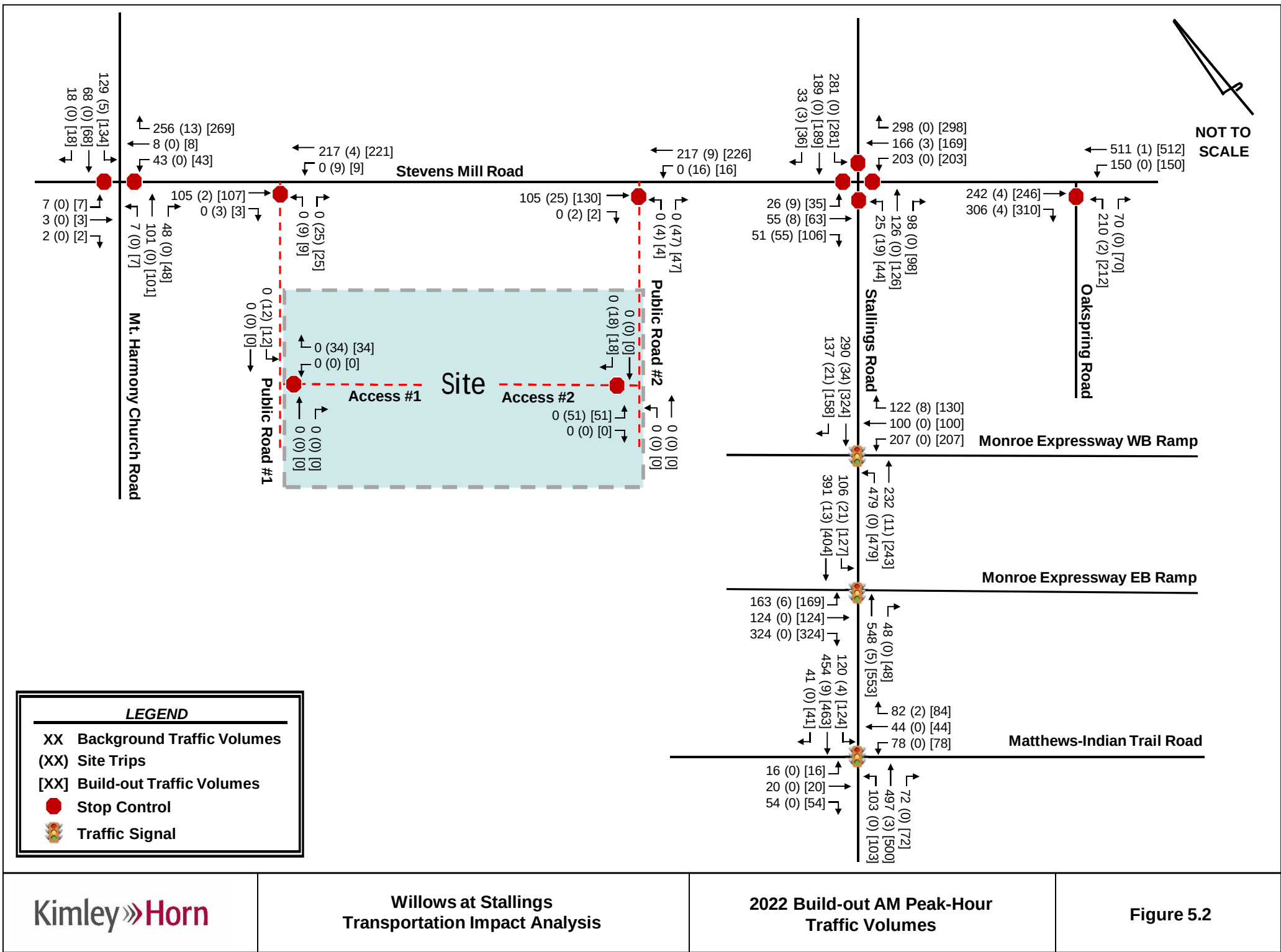




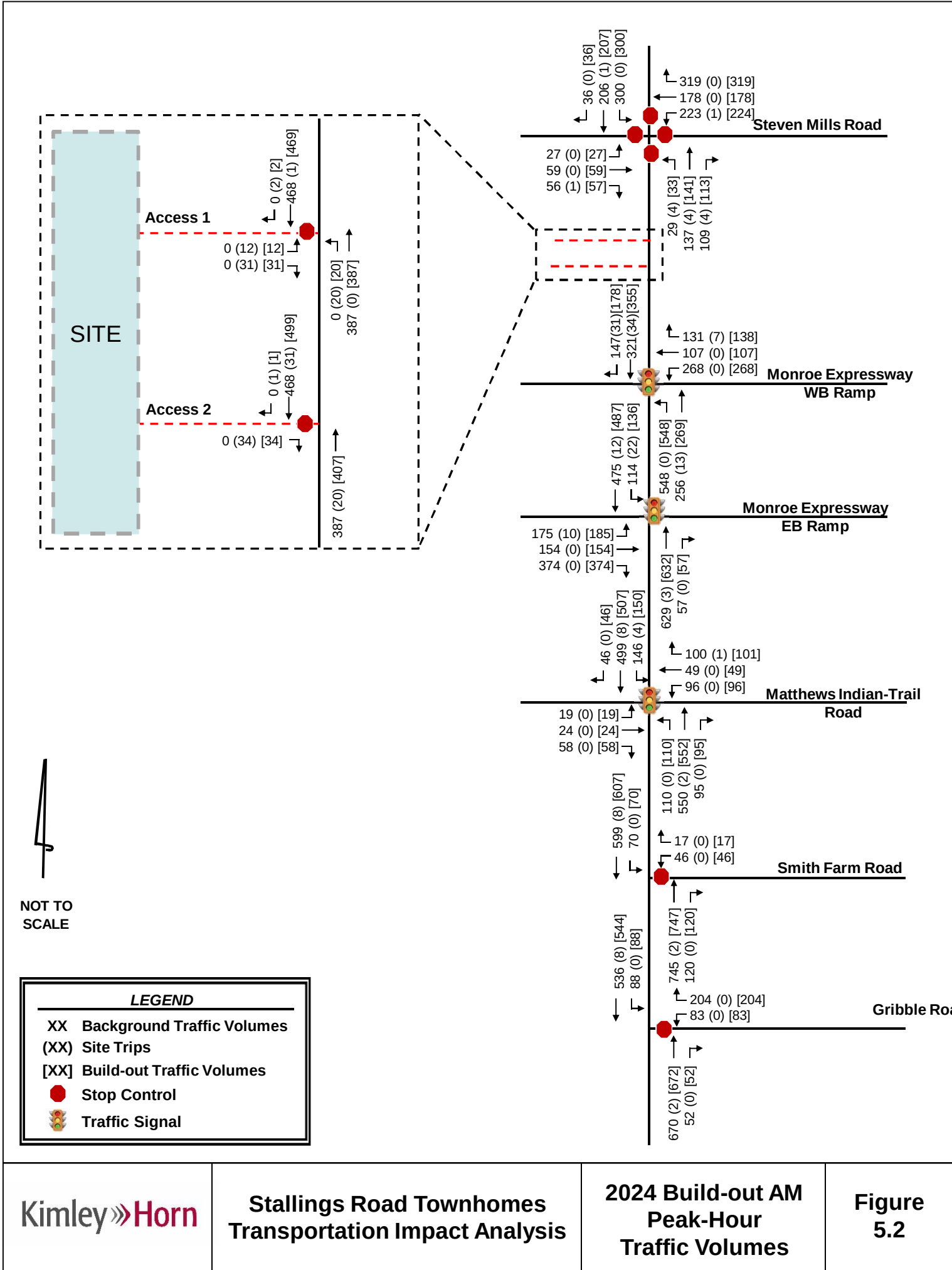


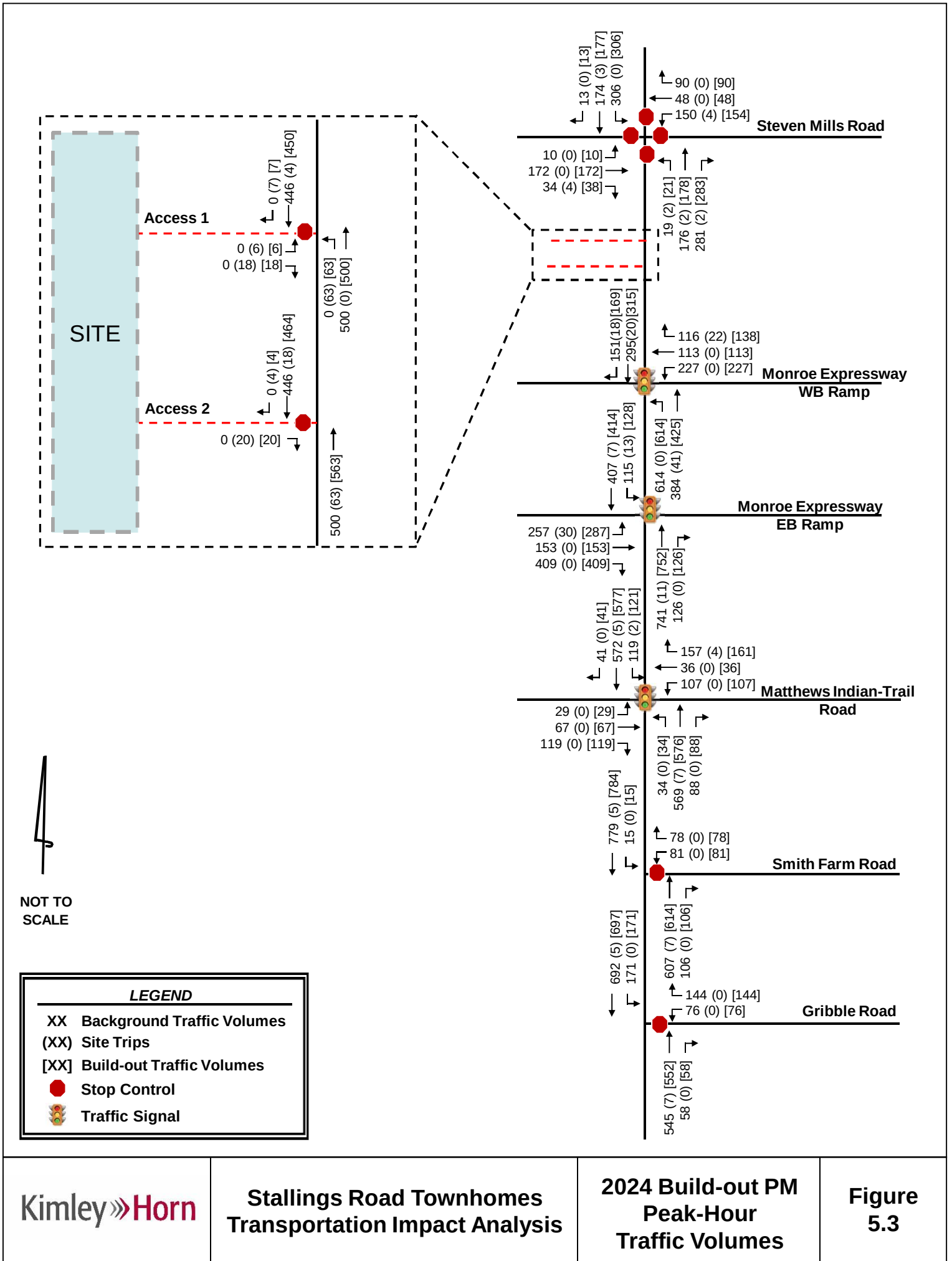
\*Negative pass-by trips are shown due to increased internal capture and reduced pass-by in Phase 2









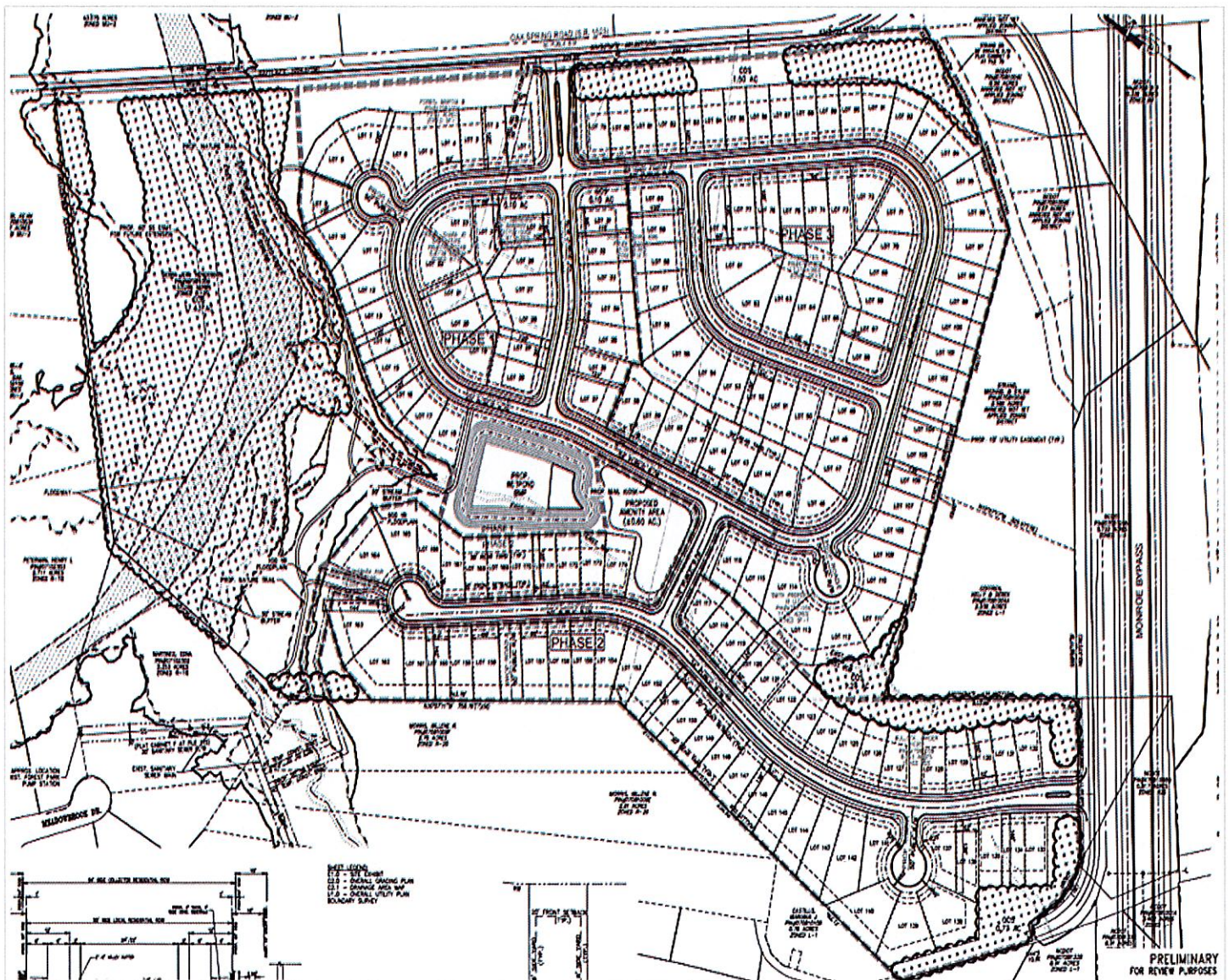




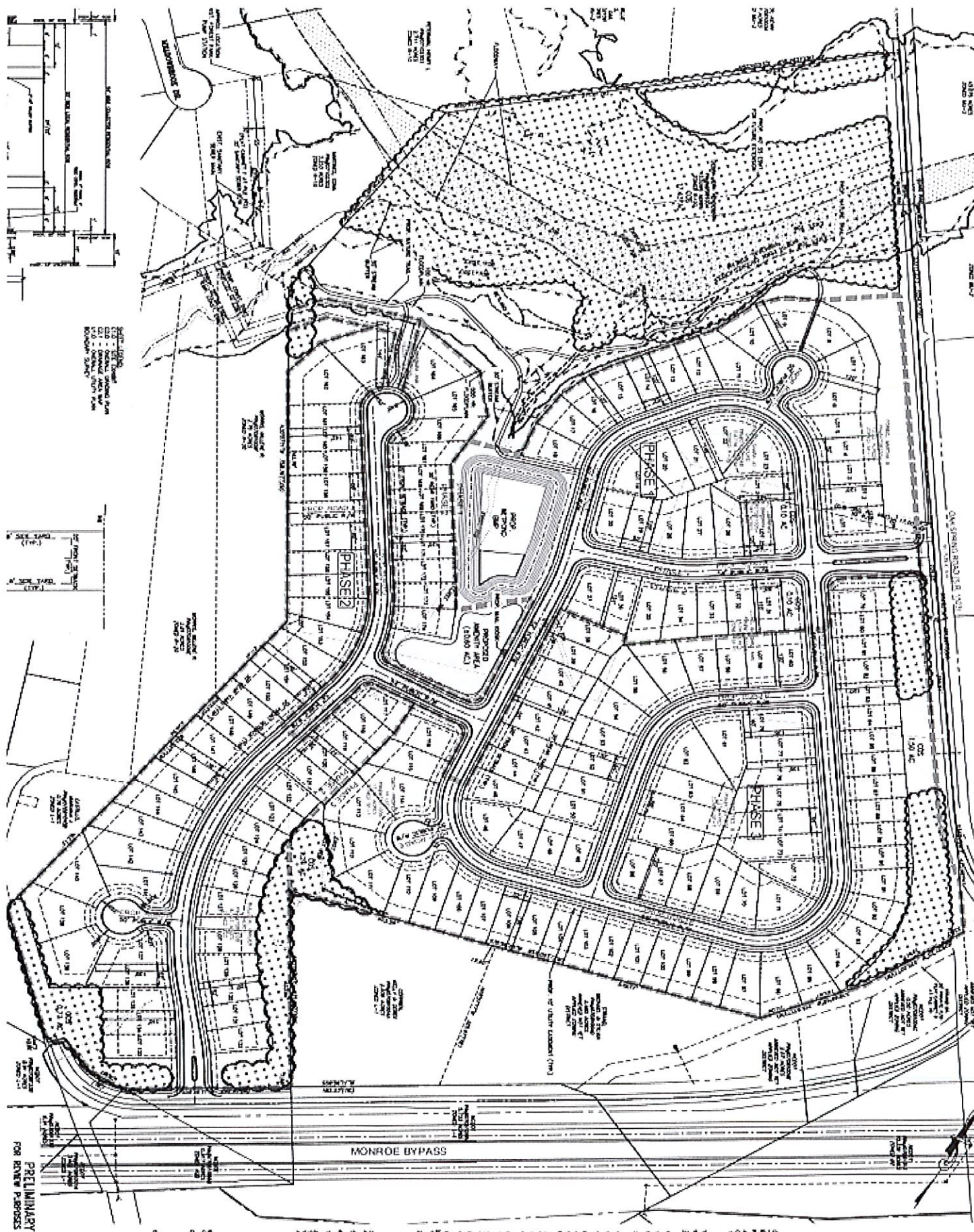
# Oak Spring Road Development

The Oak Spring Road Development will include 174 single-family homes. Tucked away at the intersection of Oak Spring Road and Stinson Hartis Road, the property will provide residents with peace and quiet while offering convenient access to the new Monroe Expressway.

**Status: Proposed**

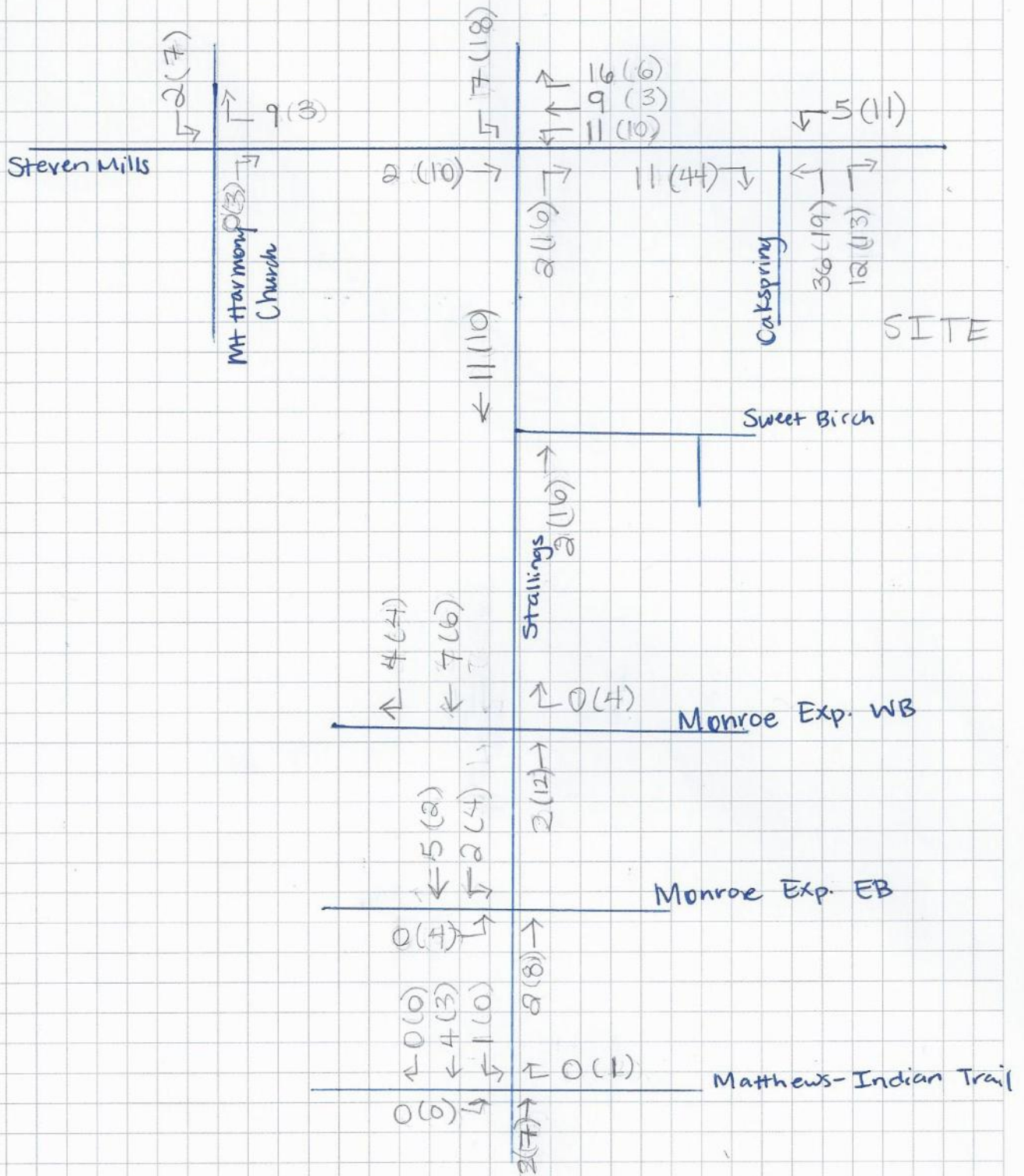






PRELIMINARY  
FOR REVIEW PURPOSES





174 single family homes - 50%

|    | IN  | OUT | IN | OUT |
|----|-----|-----|----|-----|
| AM | 32  | 96  | 16 | 48  |
| PM | 109 | 64  | 55 | 32  |

\* Assumption  
50% in  
study area

## **Agenda Item: Harmony Hills Townhomes Subdivision Preliminary Plat**

**DATE:** February 20, 2019

**FROM:** Mary Jo Gollnitz, Senior Planner

### **Background/Issue:**

Pursuant to § 155.405.7.B.3 of the Matthews Unified Development Ordinance, the Preliminary Plan of a proposed subdivision is forwarded to the Board of Commissioners within 30 days following the determination that all required standards have been met. The Board of Commissioners shall approve or approve with conditions the Preliminary Plan. If the Preliminary Plan is conditionally approved, the minutes of the Board of Commissioners meeting shall state the measures necessary for the Final Plat to be approved.

Approval of the preliminary plat allows the developer/property owner to grade the land and begin development. About the subdivision:

- Rezoning of Mt Harmony Townhomes to R-15 (CD) and R-VS was approved by the Town Board on June 11, 2018 (2017-674 Mt Harmony Townhomes).
- 123 townhomes will be created from 6 original lots totaling  $\pm 16.69$  acres.
- Property will be accessed from Stevens Mill Rd and Mt Harmony Church Rd.
- Fencing and landscape along adjacent property will be installed per rezoning requirements.
- Public improvements will be installed along Mt Harmony Church Rd, Stevens Mill Rd, and within the development including walking trail, sidewalk, curb and gutter and streetscape.
- Final Plat(s) shall be submitted in accordance with §155.405.8 and 9 of Matthews UDO, including the installation of all required improvements.
- Developer cannot get building permits or sell lots until final plat(s) are recorded.

### **Proposal/Solution:**

The attached preliminary plat does meet all the R-15(CD)and R-VS requirements and conditions that were stipulated at the time of rezoning. The proposed preliminary plat complies with the Matthews UDO.

### **Financial Impact:**

There will be 123 new homes added to the tax base.

### **Related Town Goal(s) and/or Strategies:**

Economic Development/Land Use Planning: to enhance the quality of life of the citizens by aggressively pursuing a balanced tax base; and by planning for orderly growth and development.

### **Recommended Motion/Action:**

Staff recommends approval of the preliminary plat as presented.



AS SHOWN LAND 600 ACRES SHOWN HEREON BY  
SURVEYED FOR: CENTURY COMMUNITIES SOUTHEAST, LLC  
AREA: 17,519 ACRES  
TOWN OF WATKINS, WATKINS COUNTY, NORTH CAROLINA

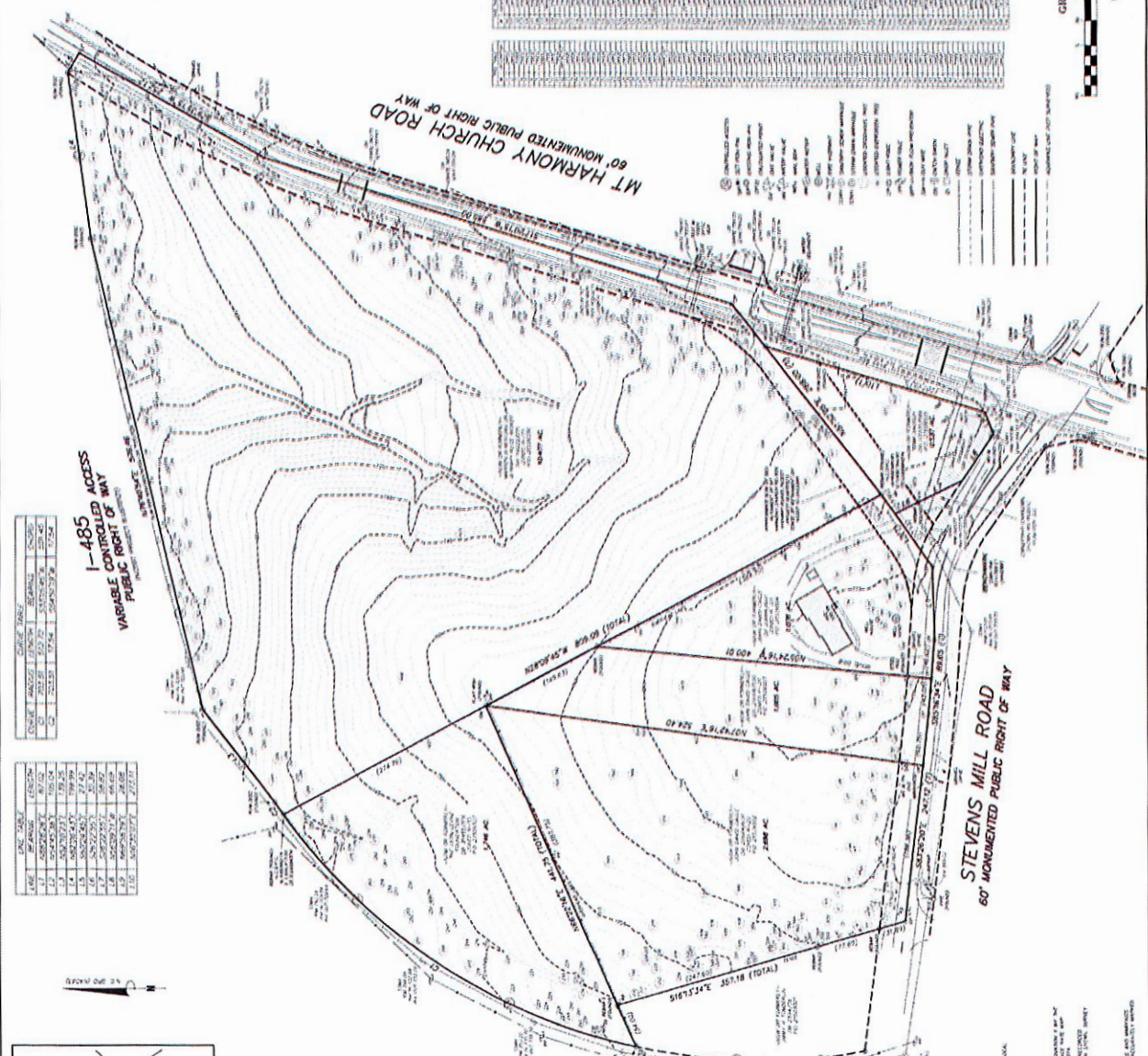
CAROLINA SURVEYORS, INC.  
F. O. BOX 322 PINEVILLE, N.C. 28134 - 2227  
TELEPHONE: 704-325-1111 FAX: 704-325-1112  
E-MAIL: CAROLINA@CAROLINASURVEYORS.COM



| DATE     | REVISIONS                 |
|----------|---------------------------|
| 11/15/17 | ADDITIONAL FIELD COMMENTS |
| 10/12/17 | 2017 PLAT HARMONY         |
| 09/29/17 | CRANBY BR. RD.            |
| 09/29/17 | PO BOX 200                |
| 09/29/17 | NEW BOLT COMMENTS         |
| 09/29/17 | ADDITIONAL COMMENTS       |
| 09/29/17 | 09/29/17                  |

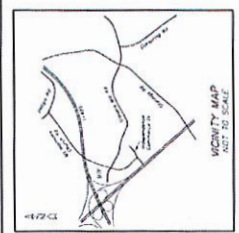
1. THIS SURVEY WAS COMPLETED ON 09/29/17 AT 10:00 AM.  
2. THE SURVEY WAS COMPLETED BY F. O. BOX 322 PINEVILLE, N.C. 28134 - 2227.  
3. THE SURVEY WAS COMPLETED BY F. O. BOX 322 PINEVILLE, N.C. 28134 - 2227.  
4. THE SURVEY WAS COMPLETED BY F. O. BOX 322 PINEVILLE, N.C. 28134 - 2227.  
5. THE SURVEY WAS COMPLETED BY F. O. BOX 322 PINEVILLE, N.C. 28134 - 2227.  
6. THE SURVEY WAS COMPLETED BY F. O. BOX 322 PINEVILLE, N.C. 28134 - 2227.  
7. THE SURVEY WAS COMPLETED BY F. O. BOX 322 PINEVILLE, N.C. 28134 - 2227.  
8. THE SURVEY WAS COMPLETED BY F. O. BOX 322 PINEVILLE, N.C. 28134 - 2227.  
9. THE SURVEY WAS COMPLETED BY F. O. BOX 322 PINEVILLE, N.C. 28134 - 2227.  
10. THE SURVEY WAS COMPLETED BY F. O. BOX 322 PINEVILLE, N.C. 28134 - 2227.

|                            |                            |
|----------------------------|----------------------------|
| 1. 100' WIDE RIGHT-OF-WAY  | 1. 100' WIDE RIGHT-OF-WAY  |
| 2. 100' WIDE RIGHT-OF-WAY  | 2. 100' WIDE RIGHT-OF-WAY  |
| 3. 100' WIDE RIGHT-OF-WAY  | 3. 100' WIDE RIGHT-OF-WAY  |
| 4. 100' WIDE RIGHT-OF-WAY  | 4. 100' WIDE RIGHT-OF-WAY  |
| 5. 100' WIDE RIGHT-OF-WAY  | 5. 100' WIDE RIGHT-OF-WAY  |
| 6. 100' WIDE RIGHT-OF-WAY  | 6. 100' WIDE RIGHT-OF-WAY  |
| 7. 100' WIDE RIGHT-OF-WAY  | 7. 100' WIDE RIGHT-OF-WAY  |
| 8. 100' WIDE RIGHT-OF-WAY  | 8. 100' WIDE RIGHT-OF-WAY  |
| 9. 100' WIDE RIGHT-OF-WAY  | 9. 100' WIDE RIGHT-OF-WAY  |
| 10. 100' WIDE RIGHT-OF-WAY | 10. 100' WIDE RIGHT-OF-WAY |



| LINE | BEARING        | DISTANCE | POINT |
|------|----------------|----------|-------|
| 1    | N 89° 15' 00\" | 100.00   | 1     |
| 2    | S 89° 15' 00\" | 100.00   | 2     |
| 3    | N 89° 15' 00\" | 100.00   | 3     |
| 4    | S 89° 15' 00\" | 100.00   | 4     |
| 5    | N 89° 15' 00\" | 100.00   | 5     |
| 6    | S 89° 15' 00\" | 100.00   | 6     |
| 7    | N 89° 15' 00\" | 100.00   | 7     |
| 8    | S 89° 15' 00\" | 100.00   | 8     |
| 9    | N 89° 15' 00\" | 100.00   | 9     |
| 10   | S 89° 15' 00\" | 100.00   | 10    |

| LINE | BEARING        | DISTANCE | POINT |
|------|----------------|----------|-------|
| 1    | N 89° 15' 00\" | 100.00   | 1     |
| 2    | S 89° 15' 00\" | 100.00   | 2     |
| 3    | N 89° 15' 00\" | 100.00   | 3     |
| 4    | S 89° 15' 00\" | 100.00   | 4     |
| 5    | N 89° 15' 00\" | 100.00   | 5     |
| 6    | S 89° 15' 00\" | 100.00   | 6     |
| 7    | N 89° 15' 00\" | 100.00   | 7     |
| 8    | S 89° 15' 00\" | 100.00   | 8     |
| 9    | N 89° 15' 00\" | 100.00   | 9     |
| 10   | S 89° 15' 00\" | 100.00   | 10    |

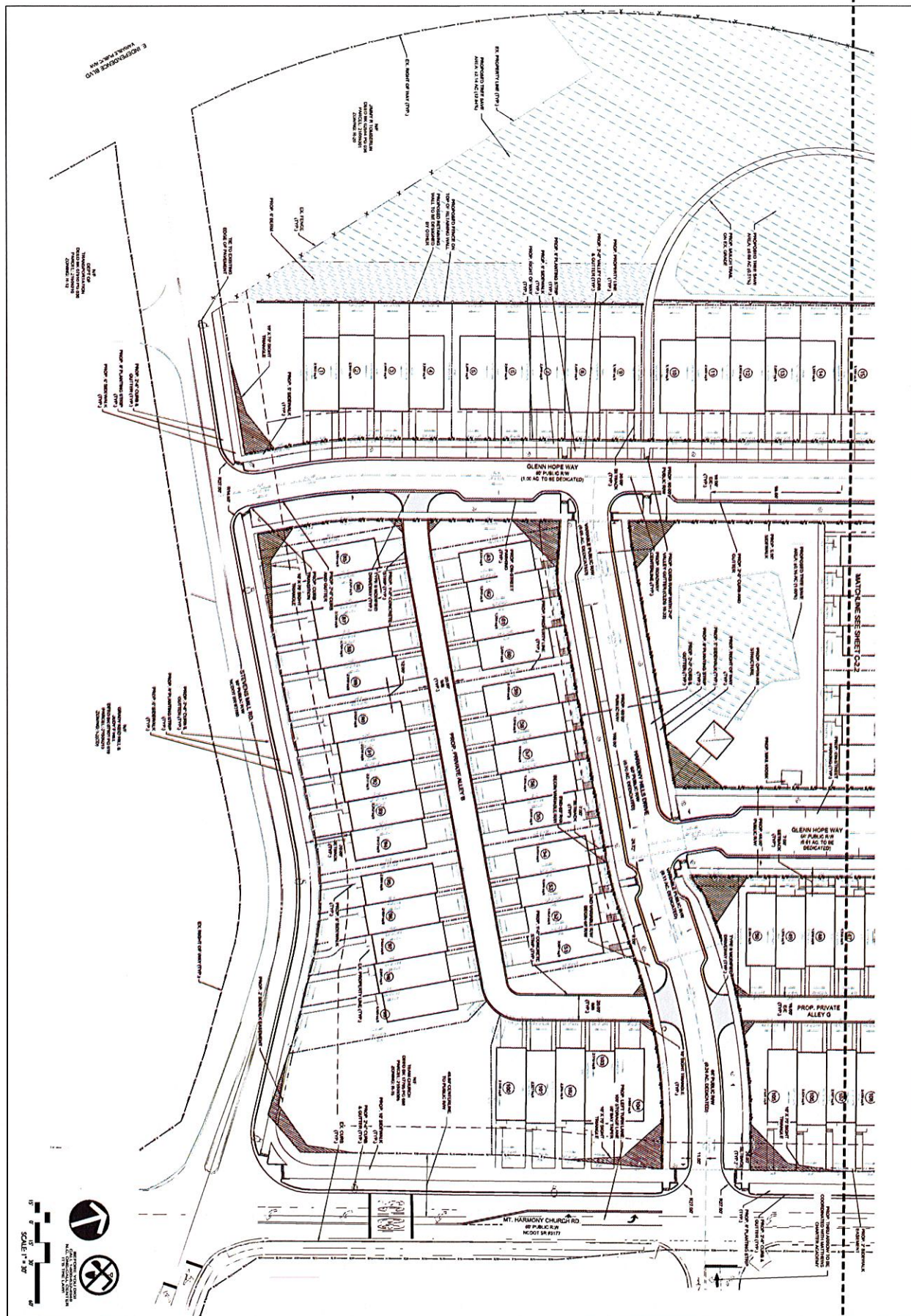


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10. THE SURVEY WAS COMPLETED BY F. O. BOX 322 PINEVILLE, N.C. 28134 - 2227.









DATE: AUGUST 2018  
 DESIGNED BY: NC  
 DRAWN BY: JAC  
 CHECKED BY: JAC  
 SCALE: 1" = 30'  
 PROJECT #101211

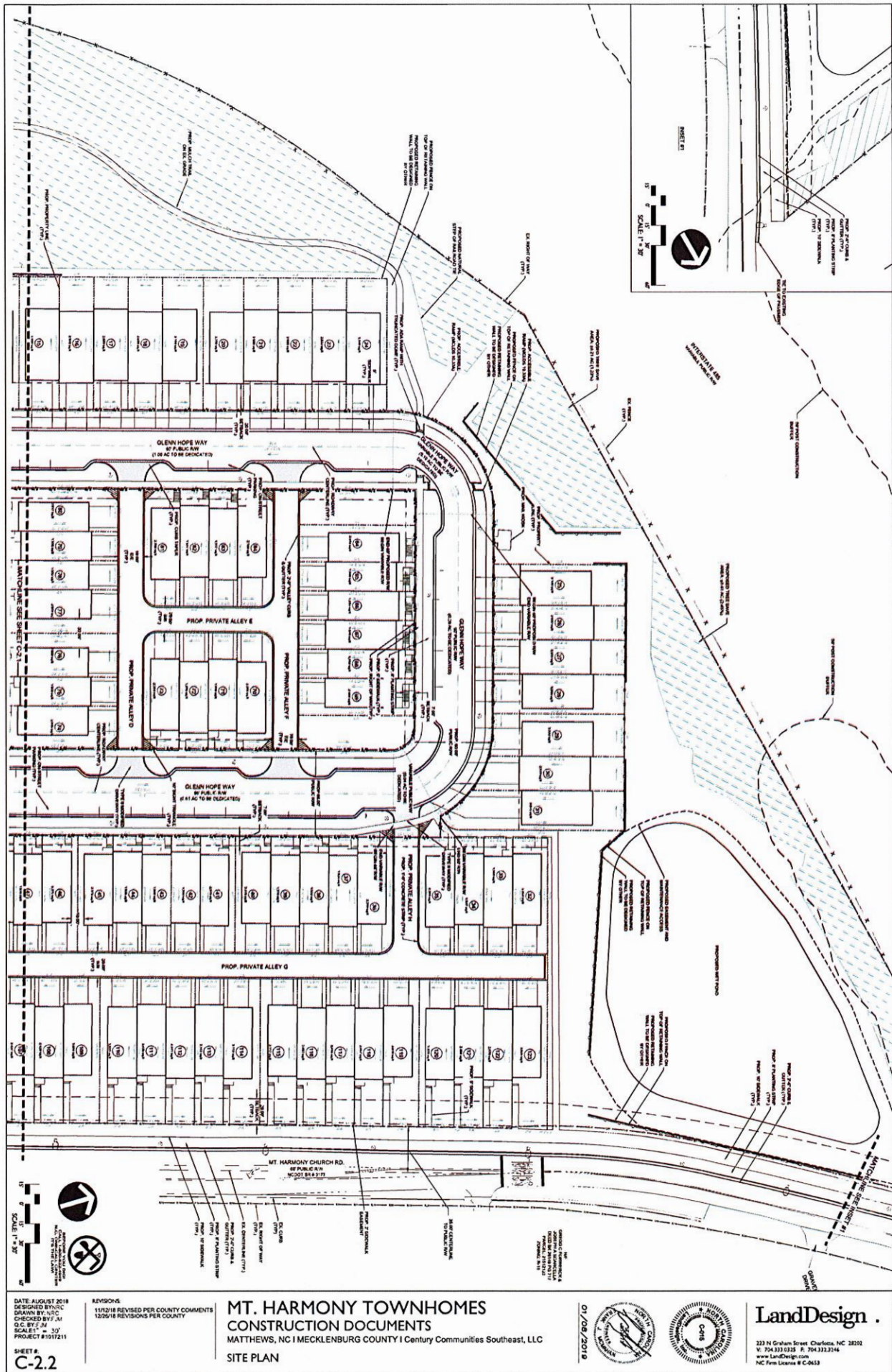
REVISIONS  
 11/21/18 REVISED PER COUNTY COMMENTS  
 12/26/18 REVISIONS PER COUNTY

**MT. HARMONY TOWNHOMES**  
**CONSTRUCTION DOCUMENTS**  
 MATTHEWS, NC | MECKLENBURG COUNTY | Century Communities Southeast, LLC  
**SITE PLAN**



**LandDesign .**  
 233 N Graham Street, Charlotte, NC 28202  
 V: 704.333.0328 F: 704.333.3246  
 www.LandDesign.com  
 NC Firm License # C-0613





DATE: AUGUST 2018  
DESIGNED BY: NDC  
DRAWN BY: NDC  
CHECKED BY: JAM  
SCALE: 1" = 20'  
PROJECT #1017211

REVISIONS:  
11/21/18 REVISED PER COUNTY COMMENTS  
12/25/18 REVISIONS PER COUNTY

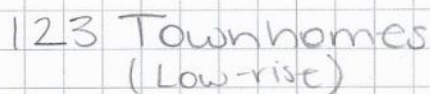
**MT. HARMONY TOWNHOMES**  
**CONSTRUCTION DOCUMENTS**  
MATTHEWS, NC | MECKLENBURG COUNTY | Century Communities Southeast, LLC  
**SITE PLAN**

01/08/2018



**LandDesign .**  
333 N. Graham Street, Charlotte, NC 28202  
V. 704.333.0335 P. 704.333.3146  
www.LandDesign.com  
NC Firm License # C-0613





|    | IN | OUT | IN | OUT |
|----|----|-----|----|-----|
| AM | 13 | 45  | 7  | 23  |
| PM | 45 | 26  | 23 | 13  |

One of FORTUNE's 100 Best

\* Assumption  
50%  
in study  
area



# Intersection Volume Development





# **INTERSECTION VOLUME DEVELOPMENT**

## **Stallings Road and Stevens Mill Road AM PEAK HOUR**

| Description                     | Stallings Road<br><u>Northbound</u> |         |       |        | Stallings Road<br><u>Southbound</u> |         |       |        | Stevens Mill Road<br><u>Eastbound</u> |         |       |        | Stevens Mill Road<br><u>Westbound</u> |         |       |        |
|---------------------------------|-------------------------------------|---------|-------|--------|-------------------------------------|---------|-------|--------|---------------------------------------|---------|-------|--------|---------------------------------------|---------|-------|--------|
|                                 | Left                                | Through | Right | U-turn | Left                                | Through | Right | U-turn | Left                                  | Through | Right | U-turn | Left                                  | Through | Right | U-turn |
| Observed Volumes                | 22                                  | 115     | 90    | 0      | 262                                 | 170     | 30    | 0      | 23                                    | 52      | 44    | 0      | 181                                   | 156     | 278   | 0      |
| Balanced Volumes                | 0                                   | 0       | 0     | 0      | 0                                   | 0       | 0     | 0      | 0                                     | 0       | 0     | 0      | 0                                     | 0       | 0     | 0      |
| 2020 Existing Traffic           | 22                                  | 115     | 90    | 0      | 262                                 | 170     | 30    | 0      | 23                                    | 52      | 44    | 0      | 181                                   | 156     | 278   | 0      |
| Conflicting Peds                | 3                                   | 0       | 0     | 0      | 0                                   | 3       | 0     | 0      | 0                                     | 3       | 0     | 0      | 3                                     | 0       | 0     | 0      |
| Conflicting Bikes               |                                     | 0       |       |        |                                     | 0       |       |        |                                       | 0       |       |        |                                       | 0       |       |        |
| 2020 Existing PHF               | 0.69                                | 0.85    | 0.75  | 0.90   | 0.69                                | 0.68    | 0.83  | 0.90   | 0.72                                  | 0.81    | 0.55  | 0.90   | 0.81                                  | 0.78    | 0.71  | 0.90   |
| 2027 Background PHF             | 0.80                                | 0.85    | 0.77  | 0.90   | 0.69                                | 0.69    | 0.84  | 0.90   | 0.77                                  | 0.82    | 0.73  | 0.90   | 0.82                                  | 0.80    | 0.72  | 0.90   |
| 2027 Buildout PHF               | 0.82                                | 0.86    | 0.77  | 0.90   | 0.69                                | 0.69    | 0.84  | 0.90   | 0.77                                  | 0.82    | 0.74  | 0.90   | 0.82                                  | 0.80    | 0.72  | 0.90   |
| Heavy Vehicle %                 | 2%                                  | 4%      | 9%    | 2%     | 3%                                  | 3%      | 3%    | 2%     | 9%                                    | 2%      | 5%    | 2%     | 2%                                    | 2%      | 4%    | 2%     |
| Annual Growth Rate              | 3.5%                                | 3.5%    | 3.5%  | 3.5%   | 3.5%                                | 3.5%    | 3.5%  | 3.5%   | 3.5%                                  | 3.5%    | 3.5%  | 3.5%   | 3.5%                                  | 3.5%    | 3.5%  | 3.5%   |
| 2027 Background Traffic (No AD) | 28                                  | 146     | 115   | 0      | 333                                 | 216     | 38    | 0      | 29                                    | 66      | 56    | 0      | 230                                   | 198     | 354   | 0      |
| 2032 Background Traffic (No AD) | 33                                  | 174     | 136   | 0      | 396                                 | 257     | 45    | 0      | 35                                    | 79      | 66    | 0      | 274                                   | 236     | 420   | 0      |
| Atrium Stallings                | 3                                   | 5       | 7     | 0      | 0                                   | 10      | 0     | 0      | 0                                     | 0       | 5     | 0      | 15                                    | 0       | 0     | 0      |
| Union Park Townhomes            | 4                                   | 4       | 4     | 0      | 0                                   | 1       | 0     | 0      | 0                                     | 0       | 1     | 0      | 1                                     | 0       | 0     | 0      |
| Willows at Stallings            | 19                                  | 0       | 0     | 0      | 0                                   | 0       | 3     | 0      | 9                                     | 8       | 55    | 0      | 0                                     | 3       | 0     | 0      |
| Harmony Hills                   | 3                                   | 0       | 0     | 0      | 0                                   | 0       | 3     | 0      | 1                                     | 2       | 1     | 0      | 0                                     | 17      | 0     | 0      |
| Oakspring Development           | 0                                   | 0       | 2     | 0      | 7                                   | 0       | 0     | 0      | 0                                     | 2       | 0     | 0      | 11                                    | 9       | 16    | 0      |
| Approved Development Trips      | 29                                  | 9       | 13    | 0      | 7                                   | 11      | 6     | 0      | 10                                    | 12      | 62    | 0      | 27                                    | 29      | 16    | 0      |
| 2027 Background Traffic         | 57                                  | 155     | 128   | 0      | 340                                 | 227     | 44    | 0      | 39                                    | 78      | 118   | 0      | 257                                   | 227     | 370   | 0      |
| 2032 Background Traffic         | 62                                  | 183     | 149   | 0      | 403                                 | 268     | 51    | 0      | 45                                    | 91      | 128   | 0      | 301                                   | 265     | 436   | 0      |
| Percent Inbound Assignment      | 0%                                  | 0%      | 0%    | 0%     | 0%                                  | 10%     | 0%    | 0%     | 0%                                    | 0%      | 15%   | 0%     | 0%                                    | 0%      | 0%    | 0%     |
| Percent Outbound Assignment     | 15%                                 | 10%     | 0%    | 0%     | 0%                                  | 0%      | 0%    | 0%     | 0%                                    | 0%      | 0%    | 0%     | 0%                                    | 0%      | 0%    | 0%     |
| Project Trips                   | 18                                  | 13      | 0     | 0      | 0                                   | 4       | 0     | 0      | 0                                     | 0       | 6     | 0      | 0                                     | 0       | 0     | 0      |
| Project Trips (Total)           | 18                                  | 13      | 0     | 0      | 0                                   | 4       | 0     | 0      | 0                                     | 0       | 6     | 0      | 0                                     | 0       | 0     | 0      |
| <b>2027 Buildout Total</b>      | 75                                  | 168     | 128   | 0      | 340                                 | 231     | 44    | 0      | 39                                    | 78      | 124   | 0      | 257                                   | 227     | 370   | 0      |
| <b>2032 Buildout Total</b>      | 80                                  | 196     | 149   | 0      | 403                                 | 272     | 51    | 0      | 45                                    | 91      | 134   | 0      | 301                                   | 265     | 436   | 0      |

## **PM PEAK HOUR**

| Description                     | Stallings Road<br><u>Northbound</u> |         |       |        | Stallings Road<br><u>Southbound</u> |         |       |        | Stevens Mill Road<br><u>Eastbound</u> |         |       |        | Stevens Mill Road<br><u>Westbound</u> |         |       |        |
|---------------------------------|-------------------------------------|---------|-------|--------|-------------------------------------|---------|-------|--------|---------------------------------------|---------|-------|--------|---------------------------------------|---------|-------|--------|
|                                 | Left                                | Through | Right | U-turn | Left                                | Through | Right | U-turn | Left                                  | Through | Right | U-turn | Left                                  | Through | Right | U-turn |
| Observed Volumes                | 12                                  | 143     | 231   | 0      | 266                                 | 145     | 11    | 0      | 8                                     | 149     | 25    | 0      | 121                                   | 41      | 80    | 0      |
| Balanced Volumes                | 0                                   | 0       | 0     | 0      | 0                                   | 0       | 0     | 0      | 0                                     | 0       | 0     | 0      | 0                                     | 0       | 0     | 0      |
| 2020 Existing Traffic           | 12                                  | 143     | 231   | 0      | 266                                 | 145     | 11    | 0      | 8                                     | 149     | 25    | 0      | 121                                   | 41      | 80    | 0      |
| Conflicting Peds                | 0                                   | 0       | 0     | 0      | 0                                   | 0       | 0     | 0      | 0                                     | 0       | 0     | 0      | 0                                     | 0       | 0     | 0      |
| Conflicting Bikes               |                                     | 0       |       |        |                                     | 0       |       |        |                                       | 0       |       |        |                                       | 1       |       |        |
| 2020 PHF                        | 0.50                                | 0.89    | 0.85  | 0.90   | 0.91                                | 0.74    | 0.55  | 0.90   | 0.67                                  | 0.91    | 0.63  | 0.90   | 0.84                                  | 0.57    | 0.95  | 0.90   |
| 2027 PHF                        | 0.90                                | 0.90    | 0.90  | 0.90   | 0.90                                | 0.90    | 0.90  | 0.90   | 0.90                                  | 0.90    | 0.90  | 0.90   | 0.90                                  | 0.90    | 0.90  | 0.90   |
| Heavy Vehicle %                 | 8%                                  | 3%      | 2%    | 2%     | 7%                                  | 3%      | 2%    | 2%     | 2%                                    | 3%      | 2%    | 2%     | 5%                                    | 2%      | 2%    | 2%     |
| Annual Growth Rate              | 3.5%                                | 3.5%    | 3.5%  | 3.5%   | 3.5%                                | 3.5%    | 3.5%  | 3.5%   | 3.5%                                  | 3.5%    | 3.5%  | 3.5%   | 3.5%                                  | 3.5%    | 3.5%  | 3.5%   |
| 2027 Background Traffic (No AD) | 15                                  | 182     | 294   | 0      | 338                                 | 184     | 14    | 0      | 10                                    | 190     | 32    | 0      | 154                                   | 52      | 102   | 0      |
| 2032 Background Traffic (No AD) | 18                                  | 216     | 349   | 0      | 402                                 | 219     | 17    | 0      | 12                                    | 225     | 38    | 0      | 183                                   | 62      | 121   | 0      |
| Atrium Stallings                | 5                                   | 11      | 16    | 0      | 0                                   | 8       | 0     | 0      | 0                                     | 0       | 4     | 0      | 11                                    | 0       | 0     | 0      |
| Union Park Townhomes            | 2                                   | 2       | 2     | 0      | 0                                   | 3       | 0     | 0      | 0                                     | 0       | 4     | 0      | 4                                     | 0       | 0     | 0      |
| Willows at Stallings            | 58                                  | 0       | 0     | 0      | 0                                   | 0       | 9     | 0      | 6                                     | 6       | 36    | 0      | 0                                     | 8       | 0     | 0      |
| Harmony Hills                   | 2                                   | 0       | 0     | 0      | 0                                   | 0       | 2     | 0      | 1                                     | 11      | 1     | 0      | 0                                     | 9       | 0     | 0      |
| Oakspring Development           | 0                                   | 0       | 16    | 0      | 18                                  | 0       | 0     | 0      | 0                                     | 10      | 0     | 0      | 10                                    | 3       | 6     | 0      |
| Approved Development Trips      | 67                                  | 13      | 34    | 0      | 18                                  | 11      | 11    | 0      | 7                                     | 27      | 45    | 0      | 25                                    | 20      | 6     | 0      |
| 2027 Background Traffic         | 82                                  | 195     | 328   | 0      | 356                                 | 195     | 25    | 0      | 17                                    | 217     | 77    | 0      | 179                                   | 72      | 108   | 0      |
| 2032 Background Traffic         | 85                                  | 229     | 383   | 0      | 420                                 | 230     | 28    | 0      | 19                                    | 252     | 83    | 0      | 208                                   | 82      | 127   | 0      |
| Percent Inbound Assignment      | 0%                                  | 0%      | 0%    | 0%     | 0%                                  | 10%     | 0%    | 0%     | 0%                                    | 0%      | 15%   | 0%     | 0%                                    | 0%      | 0%    | 0%     |
| Percent Outbound Assignment     | 15%                                 | 10%     | 0%    | 0%     | 0%                                  | 0%      | 0%    | 0%     | 0%                                    | 0%      | 0%    | 0%     | 0%                                    | 0%      | 0%    | 0%     |
| Project Trips                   | 12                                  | 8       | 0     | 0      | 0                                   | 13      | 0     | 0      | 0                                     | 0       | 21    | 0      | 0                                     | 0       | 0     | 0      |
| Project Trips (Total)           | 12                                  | 8       | 0     | 0      | 0                                   | 13      | 0     | 0      | 0                                     | 0       | 21    | 0      | 0                                     | 0       | 0     | 0      |
| <b>2027 Buildout Total</b>      | 94                                  | 203     | 328   | 0      | 356                                 | 208     | 25    | 0      | 17                                    | 217     | 98    | 0      | 179                                   | 72      | 108   | 0      |
| <b>2032 Buildout Total</b>      | 97                                  | 237     | 383   | 0      | 420                                 | 243     | 28    | 0      | 19                                    | 252     | 104   | 0      | 208                                   | 82      | 127   | 0      |

## INTERSECTION VOLUME DEVELOPMENT

### Stallings Road and Sweet Birch Drive AM PEAK HOUR

| Description                     | Stallings Road<br><u>Northbound</u> |         |       |        | Stallings Road<br><u>Southbound</u> |         |       |        | Sweet Birch Drive<br><u>Westbound</u> |         |       |        |
|---------------------------------|-------------------------------------|---------|-------|--------|-------------------------------------|---------|-------|--------|---------------------------------------|---------|-------|--------|
|                                 | Left                                | Through | Right | U-turn | Left                                | Through | Right | U-turn | Left                                  | Through | Right | U-turn |
| 2020 Existing Traffic           | 0                                   | 204     | 8     | 0      | 14                                  | 381     | 0     | 0      | 40                                    | 0       | 23    | 0      |
| Conflicting Peds                | 0                                   |         | 0     | 0      | 0                                   |         | 0     | 0      | 0                                     |         | 0     | 0      |
| Conflicting Bikes               |                                     |         | 0     |        |                                     |         | 0     |        |                                       |         | 0     |        |
|                                 |                                     |         |       |        |                                     |         |       |        |                                       |         |       |        |
| 2020 Existing PHF               | 0.90                                | 0.79    | 0.79  | 0.90   | 0.54                                | 0.54    | 0.90  | 0.90   | 0.90                                  | 0.90    | 0.90  | 0.90   |
| 2027 Background PHF             | 0.90                                | 0.81    | 0.79  | 0.90   | 0.54                                | 0.60    | 0.90  | 0.90   | 0.90                                  | 0.90    | 0.90  | 0.90   |
| 2027 Buildout PHF               | 0.90                                | 0.82    | 0.80  | 0.90   | 0.56                                | 0.63    | 0.90  | 0.90   | 0.90                                  | 0.90    | 0.90  | 0.90   |
| Heavy Vehicle %                 | 2%                                  | 6%      | 2%    | 2%     | 2%                                  | 3%      | 2%    | 2%     | 2%                                    | 2%      | 2%    | 2%     |
|                                 |                                     |         |       |        |                                     |         |       |        |                                       |         |       |        |
| Annual Growth Rate              | 3.5%                                | 3.5%    | 3.5%  | 3.5%   | 3.5%                                | 3.5%    | 3.5%  | 3.5%   | 3.5%                                  | 3.5%    | 3.5%  | 3.5%   |
|                                 |                                     |         |       |        |                                     |         |       |        |                                       |         |       |        |
| 2027 Background Traffic (No AD) | 0                                   | 260     | 10    | 0      | 18                                  | 485     | 0     | 0      | 51                                    | 0       | 29    | 0      |
|                                 |                                     |         |       |        |                                     |         |       |        |                                       |         |       |        |
| 2032 Background Traffic (No AD) | 0                                   | 308     | 12    | 0      | 21                                  | 576     | 0     | 0      | 60                                    | 0       | 35    | 0      |
|                                 |                                     |         |       |        |                                     |         |       |        |                                       |         |       |        |
| Atrium Stallings                | 0                                   | 15      | 0     | 0      | 0                                   | 30      | 0     | 0      | 0                                     | 0       | 0     | 0      |
| Union Park Townhomes            | 0                                   | 12      | 0     | 0      | 0                                   | 3       | 0     | 0      | 0                                     | 0       | 0     | 0      |
| Willows at Stallings            | 0                                   | 19      | 0     | 0      | 0                                   | 55      | 0     | 0      | 0                                     | 0       | 0     | 0      |
| Harmony Hills                   | 0                                   | 3       | 0     | 0      | 0                                   | 1       | 0     | 0      | 0                                     | 0       | 0     | 0      |
| Oakspring Development           | 0                                   | 2       | 0     | 0      | 0                                   | 11      | 0     | 0      | 0                                     | 0       | 0     | 0      |
| Approved Development Trips      | 0                                   | 51      | 0     | 0      | 0                                   | 100     | 0     | 0      | 0                                     | 0       | 0     | 0      |
|                                 |                                     |         |       |        |                                     |         |       |        |                                       |         |       |        |
| 2027 Background Traffic         | 0                                   | 311     | 10    | 0      | 18                                  | 585     | 0     | 0      | 51                                    | 0       | 29    | 0      |
|                                 |                                     |         |       |        |                                     |         |       |        |                                       |         |       |        |
| 2032 Background Traffic         | 0                                   | 359     | 12    | 0      | 21                                  | 676     | 0     | 0      | 60                                    | 0       | 35    | 0      |
|                                 |                                     |         |       |        |                                     |         |       |        |                                       |         |       |        |
| Percent Inbound Assignment      | 0%                                  | 62%     | 3%    | 0%     | 3%                                  | 0%      | 0%    | 0%     | 0%                                    | 0%      | 0%    | 0%     |
| Percent Outbound Assignment     | 0%                                  | 0%      | 0%    | 0%     | 0%                                  | 62%     | 0%    | 0%     | 3%                                    | 0%      | 3%    | 0%     |
| Project Trips                   | 0                                   | 25      | 1     | 0      | 1                                   | 75      | 0     | 0      | 3                                     | 0       | 4     | 0      |
|                                 |                                     |         |       |        |                                     |         |       |        |                                       |         |       |        |
| Project Trips (Total)           | 0                                   | 25      | 1     | 0      | 1                                   | 75      | 0     | 0      | 3                                     | 0       | 4     | 0      |
|                                 |                                     |         |       |        |                                     |         |       |        |                                       |         |       |        |
| <b>2027 Buildout Total</b>      | 0                                   | 336     | 11    | 0      | 19                                  | 660     | 0     | 0      | 54                                    | 0       | 33    | 0      |
| <b>2032 Buildout Total</b>      | 0                                   | 384     | 13    | 0      | 22                                  | 751     | 0     | 0      | 63                                    | 0       | 39    | 0      |

### PM PEAK HOUR

| Description                     | Stallings Road<br><u>Northbound</u> |         |       |        | Stallings Road<br><u>Southbound</u> |         |       |        | Sweet Birch Drive<br><u>Westbound</u> |         |       |        |
|---------------------------------|-------------------------------------|---------|-------|--------|-------------------------------------|---------|-------|--------|---------------------------------------|---------|-------|--------|
|                                 | Left                                | Through | Right | U-turn | Left                                | Through | Right | U-turn | Left                                  | Through | Right | U-turn |
| 2020 Existing Traffic           | 0                                   | 363     | 30    | 0      | 40                                  | 251     | 0     | 0      | 17                                    | 0       | 23    | 0      |
| Conflicting Peds                | 0                                   |         | 0     | 0      | 0                                   |         | 0     | 0      | 0                                     |         | 0     | 0      |
| Conflicting Bikes               |                                     |         | 0     |        |                                     |         | 0     |        |                                       |         | 0     |        |
|                                 |                                     |         |       |        |                                     |         |       |        |                                       |         |       |        |
| 2020 PHF                        | 0.90                                | 0.85    | 0.85  | 0.90   | 0.87                                | 0.87    | 0.90  | 0.90   | 0.90                                  | 0.90    | 0.90  | 0.90   |
| 2027 PHF                        | 0.90                                | 0.90    | 0.90  | 0.90   | 0.90                                | 0.90    | 0.90  | 0.90   | 0.90                                  | 0.90    | 0.90  | 0.90   |
| Heavy Vehicle %                 | 2%                                  | 3%      | 2%    | 2%     | 2%                                  | 4%      | 2%    | 2%     | 2%                                    | 2%      | 2%    | 2%     |
|                                 |                                     |         |       |        |                                     |         |       |        |                                       |         |       |        |
| Annual Growth Rate              | 3.5%                                | 3.5%    | 3.5%  | 3.5%   | 3.5%                                | 3.5%    | 3.5%  | 3.5%   | 3.5%                                  | 3.5%    | 3.5%  | 3.5%   |
|                                 |                                     |         |       |        |                                     |         |       |        |                                       |         |       |        |
| 2027 Background Traffic (No AD) | 0                                   | 462     | 38    | 0      | 51                                  | 319     | 0     | 0      | 22                                    | 0       | 29    | 0      |
|                                 |                                     |         |       |        |                                     |         |       |        |                                       |         |       |        |
| 2032 Background Traffic (No AD) | 0                                   | 549     | 45    | 0      | 60                                  | 379     | 0     | 0      | 26                                    | 0       | 35    | 0      |
|                                 |                                     |         |       |        |                                     |         |       |        |                                       |         |       |        |
| Atrium Stallings                | 0                                   | 32      | 0     | 0      | 0                                   | 23      | 0     | 0      | 0                                     | 0       | 0     | 0      |
| Union Park Townhomes            | 0                                   | 6       | 0     | 0      | 0                                   | 11      | 0     | 0      | 0                                     | 0       | 0     | 0      |
| Willows at Stallings            | 0                                   | 58      | 0     | 0      | 0                                   | 36      | 0     | 0      | 0                                     | 0       | 0     | 0      |
| Harmony Hills                   | 0                                   | 2       | 0     | 0      | 0                                   | 1       | 0     | 0      | 0                                     | 0       | 0     | 0      |
| Oakspring Development           | 0                                   | 16      | 0     | 0      | 0                                   | 10      | 0     | 0      | 0                                     | 0       | 0     | 0      |
| Approved Development Trips      | 0                                   | 114     | 0     | 0      | 0                                   | 81      | 0     | 0      | 0                                     | 0       | 0     | 0      |
|                                 |                                     |         |       |        |                                     |         |       |        |                                       |         |       |        |
| 2027 Background Traffic         | 0                                   | 576     | 38    | 0      | 51                                  | 400     | 0     | 0      | 22                                    | 0       | 29    | 0      |
|                                 |                                     |         |       |        |                                     |         |       |        |                                       |         |       |        |
| 2032 Background Traffic         | 0                                   | 663     | 45    | 0      | 60                                  | 460     | 0     | 0      | 26                                    | 0       | 35    | 0      |
|                                 |                                     |         |       |        |                                     |         |       |        |                                       |         |       |        |
| Percent Inbound Assignment      | 0%                                  | 62%     | 3%    | 0%     | 3%                                  | 0%      | 0%    | 0%     | 0%                                    | 0%      | 0%    | 0%     |
| Percent Outbound Assignment     | 0%                                  | 0%      | 0%    | 0%     | 0%                                  | 62%     | 0%    | 0%     | 3%                                    | 0%      | 3%    | 0%     |
| Project Trips                   | 0                                   | 85      | 4     | 0      | 4                                   | 50      | 0     | 0      | 3                                     | 0       | 2     | 0      |
|                                 |                                     |         |       |        |                                     |         |       |        |                                       |         |       |        |
| Project Trips (Total)           | 0                                   | 85      | 4     | 0      | 4                                   | 50      | 0     | 0      | 3                                     | 0       | 2     | 0      |
|                                 |                                     |         |       |        |                                     |         |       |        |                                       |         |       |        |
| <b>2027 Buildout Total</b>      | 0                                   | 661     | 42    | 0      | 55                                  | 450     | 0     | 0      | 25                                    | 0       | 31    | 0      |
| <b>2032 Buildout Total</b>      | 0                                   | 748     | 49    | 0      | 64                                  | 510     | 0     | 0      | 29                                    | 0       | 37    | 0      |

# **INTERSECTION VOLUME DEVELOPMENT**

## **Sweet Birch Drive and Nouvelle Drive AM PEAK HOUR**

| Description                     | Nouvelle Drive<br><u>Northbound</u> |         |       |        | -<br><u>Southbound</u> |         |       |        | Sweet Birch Drive<br><u>Eastbound</u> |         |       |        | Sweet Birch Drive<br><u>Westbound</u> |         |       |        |
|---------------------------------|-------------------------------------|---------|-------|--------|------------------------|---------|-------|--------|---------------------------------------|---------|-------|--------|---------------------------------------|---------|-------|--------|
|                                 | Left                                | Through | Right | U-turn | Left                   | Through | Right | U-turn | Left                                  | Through | Right | U-turn | Left                                  | Through | Right | U-turn |
| 2020 Existing Traffic           | 7                                   | 0       | 0     | 0      | 0                      | 0       | 0     | 0      | 0                                     | 19      | 3     | 0      | 0                                     | 56      | 0     | 0      |
| Conflicting Peds                | 0                                   |         | 0     | 0      | 0                      |         | 0     | 0      | 0                                     |         | 0     | 0      | 0                                     |         | 0     | 0      |
| Conflicting Bikes               |                                     |         | 0     |        |                        |         | 0     |        |                                       |         | 0     |        |                                       |         | 0     |        |
|                                 |                                     |         |       |        |                        |         |       |        |                                       |         |       |        |                                       |         |       |        |
| 2020 Existing PHF               | 0.90                                | 0.90    | 0.90  | 0.90   | 0.90                   | 0.90    | 0.90  | 0.90   | 0.90                                  | 0.90    | 0.90  | 0.90   | 0.90                                  | 0.90    | 0.90  | 0.90   |
| 2027 Background PHF             | 0.90                                | 0.90    | 0.90  | 0.90   | 0.90                   | 0.90    | 0.90  | 0.90   | 0.90                                  | 0.90    | 0.90  | 0.90   | 0.90                                  | 0.90    | 0.90  | 0.90   |
| 2027 Buildout PHF               | 0.90                                | 0.90    | 0.90  | 0.90   | 0.90                   | 0.90    | 0.90  | 0.90   | 0.90                                  | 0.90    | 0.90  | 0.90   | 0.90                                  | 0.90    | 0.90  | 0.90   |
| Heavy Vehicle %                 | 2%                                  | 2%      | 2%    | 2%     | 2%                     | 2%      | 2%    | 2%     | 2%                                    | 2%      | 2%    | 2%     | 2%                                    | 2%      | 2%    | 2%     |
|                                 |                                     |         |       |        |                        |         |       |        |                                       |         |       |        |                                       |         |       |        |
| Annual Growth Rate              | 3.5%                                | 3.5%    | 3.5%  | 3.5%   | 3.5%                   | 3.5%    | 3.5%  | 3.5%   | 3.5%                                  | 3.5%    | 3.5%  | 3.5%   | 3.5%                                  | 3.5%    | 3.5%  | 3.5%   |
|                                 |                                     |         |       |        |                        |         |       |        |                                       |         |       |        |                                       |         |       |        |
| 2027 Background Traffic (No AD) | 9                                   | 0       | 0     | 0      | 0                      | 0       | 0     | 0      | 0                                     | 24      | 4     | 0      | 0                                     | 71      | 0     | 0      |
|                                 |                                     |         |       |        |                        |         |       |        |                                       |         |       |        |                                       |         |       |        |
| 2032 Background Traffic (No AD) | 11                                  | 0       | 0     | 0      | 0                      | 0       | 0     | 0      | 0                                     | 29      | 5     | 0      | 0                                     | 85      | 0     | 0      |
|                                 |                                     |         |       |        |                        |         |       |        |                                       |         |       |        |                                       |         |       |        |
| Atrium Stallings                | 0                                   | 0       | 0     | 0      | 0                      | 0       | 0     | 0      | 0                                     | 0       | 0     | 0      | 0                                     | 0       | 0     | 0      |
| Union Park Townhomes            | 0                                   | 0       | 0     | 0      | 0                      | 0       | 0     | 0      | 0                                     | 0       | 0     | 0      | 0                                     | 0       | 0     | 0      |
| Willows at Stallings            | 0                                   | 0       | 0     | 0      | 0                      | 0       | 0     | 0      | 0                                     | 0       | 0     | 0      | 0                                     | 0       | 0     | 0      |
| Harmony Hills                   | 0                                   | 0       | 0     | 0      | 0                      | 0       | 0     | 0      | 0                                     | 0       | 0     | 0      | 0                                     | 0       | 0     | 0      |
| Oakspring Development           | 0                                   | 0       | 0     | 0      | 0                      | 0       | 0     | 0      | 0                                     | 0       | 0     | 0      | 0                                     | 0       | 0     | 0      |
| Approved Development Trips      | 0                                   | 0       | 0     | 0      | 0                      | 0       | 0     | 0      | 0                                     | 0       | 0     | 0      | 0                                     | 0       | 0     | 0      |
|                                 |                                     |         |       |        |                        |         |       |        |                                       |         |       |        |                                       |         |       |        |
| 2027 Background Traffic         | 9                                   | 0       | 0     | 0      | 0                      | 0       | 0     | 0      | 0                                     | 24      | 4     | 0      | 0                                     | 71      | 0     | 0      |
|                                 |                                     |         |       |        |                        |         |       |        |                                       |         |       |        |                                       |         |       |        |
| 2032 Background Traffic         | 11                                  | 0       | 0     | 0      | 0                      | 0       | 0     | 0      | 0                                     | 29      | 5     | 0      | 0                                     | 85      | 0     | 0      |
|                                 |                                     |         |       |        |                        |         |       |        |                                       |         |       |        |                                       |         |       |        |
| Percent Inbound Assignment      | 0%                                  | 0%      | 0%    | 0%     | 0%                     | 0%      | 0%    | 0%     | 0%                                    | 6%      | 0%    | 0%     | 0%                                    | 0%      | 0%    | 0%     |
| Percent Outbound Assignment     | 0%                                  | 0%      | 0%    | 0%     | 0%                     | 0%      | 0%    | 0%     | 0%                                    | 0%      | 0%    | 0%     | 0%                                    | 6%      | 0%    | 0%     |
| Project Trips                   | 0                                   | 0       | 0     | 0      | 0                      | 0       | 0     | 0      | 0                                     | 2       | 0     | 0      | 0                                     | 7       | 0     | 0      |
|                                 |                                     |         |       |        |                        |         |       |        |                                       |         |       |        |                                       |         |       |        |
| Project Trips (Total)           | 0                                   | 0       | 0     | 0      | 0                      | 0       | 0     | 0      | 0                                     | 2       | 0     | 0      | 0                                     | 7       | 0     | 0      |
|                                 |                                     |         |       |        |                        |         |       |        |                                       |         |       |        |                                       |         |       |        |
| <b>2027 Buildout Total</b>      | 9                                   | 0       | 0     | 0      | 0                      | 0       | 0     | 0      | 0                                     | 26      | 4     | 0      | 0                                     | 78      | 0     | 0      |
| <b>2032 Buildout Total</b>      | 11                                  | 0       | 0     | 0      | 0                      | 0       | 0     | 0      | 0                                     | 31      | 5     | 0      | 0                                     | 92      | 0     | 0      |

## **PM PEAK HOUR**

| Description                     | Nouvelle Drive<br><u>Northbound</u> |         |       |        | -<br><u>Southbound</u> |         |       |        | Sweet Birch Drive<br><u>Eastbound</u> |         |       |        | Sweet Birch Drive<br><u>Westbound</u> |         |       |        |
|---------------------------------|-------------------------------------|---------|-------|--------|------------------------|---------|-------|--------|---------------------------------------|---------|-------|--------|---------------------------------------|---------|-------|--------|
|                                 | Left                                | Through | Right | U-turn | Left                   | Through | Right | U-turn | Left                                  | Through | Right | U-turn | Left                                  | Through | Right | U-turn |
| 2020 Existing Traffic           | 3                                   | 0       | 0     | 0      | 0                      | 0       | 0     | 0      | 0                                     | 64      | 6     | 0      | 0                                     | 37      | 0     | 0      |
| Conflicting Peds                | 0                                   |         | 0     | 0      | 0                      |         | 0     | 0      | 0                                     |         | 0     | 0      | 0                                     |         | 0     | 0      |
| Conflicting Bikes               |                                     |         | 0     |        |                        |         | 0     |        |                                       |         | 0     |        |                                       |         | 0     |        |
|                                 |                                     |         |       |        |                        |         |       |        |                                       |         |       |        |                                       |         |       |        |
| 2020 PHF                        | 0.90                                | 0.90    | 0.90  | 0.90   | 0.90                   | 0.90    | 0.90  | 0.90   | 0.90                                  | 0.90    | 0.90  | 0.90   | 0.90                                  | 0.90    | 0.90  | 0.90   |
| 2027 PHF                        | 0.90                                | 0.90    | 0.90  | 0.90   | 0.90                   | 0.90    | 0.90  | 0.90   | 0.90                                  | 0.90    | 0.90  | 0.90   | 0.90                                  | 0.90    | 0.90  | 0.90   |
| Heavy Vehicle %                 | 2%                                  | 2%      | 2%    | 2%     | 2%                     | 2%      | 2%    | 2%     | 2%                                    | 2%      | 2%    | 2%     | 2%                                    | 2%      | 2%    | 2%     |
|                                 |                                     |         |       |        |                        |         |       |        |                                       |         |       |        |                                       |         |       |        |
| Annual Growth Rate              | 3.5%                                | 3.5%    | 3.5%  | 3.5%   | 3.5%                   | 3.5%    | 3.5%  | 3.5%   | 3.5%                                  | 3.5%    | 3.5%  | 3.5%   | 3.5%                                  | 3.5%    | 3.5%  | 3.5%   |
|                                 |                                     |         |       |        |                        |         |       |        |                                       |         |       |        |                                       |         |       |        |
| 2027 Background Traffic (No AD) | 4                                   | 0       | 0     | 0      | 0                      | 0       | 0     | 0      | 0                                     | 81      | 8     | 0      | 0                                     | 47      | 0     | 0      |
|                                 |                                     |         |       |        |                        |         |       |        |                                       |         |       |        |                                       |         |       |        |
| 2032 Background Traffic (No AD) | 5                                   | 0       | 0     | 0      | 0                      | 0       | 0     | 0      | 0                                     | 97      | 9     | 0      | 0                                     | 56      | 0     | 0      |
|                                 |                                     |         |       |        |                        |         |       |        |                                       |         |       |        |                                       |         |       |        |
| Atrium Stallings                | 0                                   | 0       | 0     | 0      | 0                      | 0       | 0     | 0      | 0                                     | 0       | 0     | 0      | 0                                     | 0       | 0     | 0      |
| Union Park Townhomes            | 0                                   | 0       | 0     | 0      | 0                      | 0       | 0     | 0      | 0                                     | 0       | 0     | 0      | 0                                     | 0       | 0     | 0      |
| Willows at Stallings            | 0                                   | 0       | 0     | 0      | 0                      | 0       | 0     | 0      | 0                                     | 0       | 0     | 0      | 0                                     | 0       | 0     | 0      |
| Harmony Hills                   | 0                                   | 0       | 0     | 0      | 0                      | 0       | 0     | 0      | 0                                     | 0       | 0     | 0      | 0                                     | 0       | 0     | 0      |
| Oakspring Development           | 0                                   | 0       | 0     | 0      | 0                      | 0       | 0     | 0      | 0                                     | 0       | 0     | 0      | 0                                     | 0       | 0     | 0      |
| Approved Development Trips      | 0                                   | 0       | 0     | 0      | 0                      | 0       | 0     | 0      | 0                                     | 0       | 0     | 0      | 0                                     | 0       | 0     | 0      |
|                                 |                                     |         |       |        |                        |         |       |        |                                       |         |       |        |                                       |         |       |        |
| 2027 Background Traffic         | 4                                   | 0       | 0     | 0      | 0                      | 0       | 0     | 0      | 0                                     | 81      | 8     | 0      | 0                                     | 47      | 0     | 0      |
|                                 |                                     |         |       |        |                        |         |       |        |                                       |         |       |        |                                       |         |       |        |
| 2032 Background Traffic         | 5                                   | 0       | 0     | 0      | 0                      | 0       | 0     | 0      | 0                                     | 97      | 9     | 0      | 0                                     | 56      | 0     | 0      |
|                                 |                                     |         |       |        |                        |         |       |        |                                       |         |       |        |                                       |         |       |        |
| Percent Inbound Assignment      | 0%                                  | 0%      | 0%    | 0%     | 0%                     | 0%      | 0%    | 0%     | 0%                                    | 6%      | 0%    | 0%     | 0%                                    | 0%      | 0%    | 0%     |
| Percent Outbound Assignment     | 0%                                  | 0%      | 0%    | 0%     | 0%                     | 0%      | 0%    | 0%     | 0%                                    | 0%      | 0%    | 0%     | 0%                                    | 6%      | 0%    | 0%     |
| Project Trips                   | 0                                   | 0       | 0     | 0      | 0                      | 0       | 0     | 0      | 0                                     | 8       | 0     | 0      | 0                                     | 5       | 0     | 0      |
|                                 |                                     |         |       |        |                        |         |       |        |                                       |         |       |        |                                       |         |       |        |
| Project Trips (Total)           | 0                                   | 0       | 0     | 0      | 0                      | 0       | 0     | 0      | 0                                     | 8       | 0     | 0      | 0                                     | 5       | 0     | 0      |
|                                 |                                     |         |       |        |                        |         |       |        |                                       |         |       |        |                                       |         |       |        |
| <b>2027 Buildout Total</b>      | 4                                   | 0       | 0     | 0      | 0                      | 0       | 0     | 0      | 0                                     | 89      | 8     | 0      | 0                                     | 52      | 0     | 0      |
| <b>2032 Buildout Total</b>      | 5                                   | 0       | 0     | 0      | 0                      | 0       | 0     | 0      | 0                                     | 105     | 9     | 0      | 0                                     | 61      | 0     | 0      |

# **INTERSECTION VOLUME DEVELOPMENT**

## **Stallings Road and Monroe Expressway WB Ramp AM PEAK HOUR**

| Description                     | Stallings Road<br><u>Northbound</u> |         |       |        | Stallings Road<br><u>Southbound</u> |         |       |        | Monroe Expressway WB Ramp<br><u>Westbound</u> |         |       |        |
|---------------------------------|-------------------------------------|---------|-------|--------|-------------------------------------|---------|-------|--------|-----------------------------------------------|---------|-------|--------|
|                                 | Left                                | Through | Right | U-turn | Left                                | Through | Right | U-turn | Left                                          | Through | Right | U-turn |
| Observed Volumes                | 416                                 | 209     | 0     | 0      | 0                                   | 247     | 128   | 0      | 119                                           | 94      | 114   | 0      |
| Balanced Volumes                | 2                                   | 1       | 0     | 0      | 0                                   | 5       | 0     | 0      | 2                                             | 0       | 0     | 0      |
| 2020 Existing Traffic           | 418                                 | 210     | 0     | 0      | 0                                   | 252     | 128   | 0      | 121                                           | 94      | 114   | 0      |
| Conflicting Peds                | 0                                   | 0       | 0     | 0      | 0                                   | 0       | 0     | 0      | 0                                             | 0       | 0     | 0      |
| Conflicting Bikes               |                                     | 0       |       |        |                                     | 0       |       |        |                                               | 0       |       |        |
|                                 | 0.95                                | 0.83    | 0.90  | 0.90   | 0.90                                | 0.86    | 0.97  | 0.90   | 0.85                                          | 0.81    | 0.84  | 0.90   |
| 2020 Existing PHF               | 0.94                                | 0.84    | 0.90  | 0.90   | 0.90                                | 0.87    | 0.95  | 0.90   | 0.87                                          | 0.81    | 0.85  | 0.90   |
| 2027 Background PHF             | 0.94                                | 0.84    | 0.90  | 0.90   | 0.90                                | 0.87    | 0.95  | 0.90   | 0.87                                          | 0.81    | 0.85  | 0.90   |
| 2027 Buildout PHF               | 7%                                  | 8%      | 2%    | 2%     | 2%                                  | 2%      | 5%    | 2%     | 5%                                            | 3%      | 4%    | 2%     |
| Heavy Vehicle %                 |                                     |         |       |        |                                     |         |       |        |                                               |         |       |        |
| Annual Growth Rate              | 3.5%                                | 3.5%    | 3.5%  | 3.5%   | 3.5%                                | 3.5%    | 3.5%  | 3.5%   | 3.5%                                          | 3.5%    | 3.5%  | 3.5%   |
| 2027 Background Traffic (No AD) | 532                                 | 267     | 0     | 0      | 0                                   | 321     | 163   | 0      | 154                                           | 120     | 145   | 0      |
| 2032 Background Traffic (No AD) | 632                                 | 317     | 0     | 0      | 0                                   | 381     | 193   | 0      | 183                                           | 142     | 172   | 0      |
| Atrium Stallings                | 68                                  | 15      | 0     | 0      | 0                                   | 30      | 0     | 0      | 125                                           | 0       | 0     | 0      |
| Union Park Townhomes            | 0                                   | 13      | 0     | 0      | 0                                   | 34      | 31    | 0      | 0                                             | 0       | 7     | 0      |
| Willows at Stallings            | 0                                   | 11      | 0     | 0      | 0                                   | 34      | 21    | 0      | 0                                             | 0       | 8     | 0      |
| Harmony Hills                   | 0                                   | 2       | 0     | 0      | 0                                   | 1       | 0     | 0      | 0                                             | 0       | 1     | 0      |
| Oakspring Development           | 0                                   | 2       | 0     | 0      | 0                                   | 7       | 4     | 0      | 0                                             | 0       | 0     | 0      |
| Approved Development Trips      | 68                                  | 43      | 0     | 0      | 0                                   | 106     | 56    | 0      | 125                                           | 0       | 16    | 0      |
| 2027 Background Traffic         | 600                                 | 310     | 0     | 0      | 0                                   | 427     | 219   | 0      | 279                                           | 120     | 161   | 0      |
| 2032 Background Traffic         | 700                                 | 360     | 0     | 0      | 0                                   | 487     | 249   | 0      | 308                                           | 142     | 188   | 0      |
| Percent Inbound Assignment      | 0%                                  | 40%     | 0%    | 0%     | 0%                                  | 0%      | 0%    | 0%     | 0%                                            | 0%      | 25%   | 0%     |
| Percent Outbound Assignment     | 0%                                  | 0%      | 0%    | 0%     | 0%                                  | 40%     | 25%   | 0%     | 0%                                            | 0%      | 0%    | 0%     |
| Project Trips                   | 0                                   | 16      | 0     | 0      | 0                                   | 48      | 30    | 0      | 0                                             | 0       | 10    | 0      |
| Project Trips (Total)           | 0                                   | 16      | 0     | 0      | 0                                   | 48      | 30    | 0      | 0                                             | 0       | 10    | 0      |
| <b>2027 Buildout Total</b>      | 600                                 | 326     | 0     | 0      | 0                                   | 475     | 249   | 0      | 279                                           | 120     | 171   | 0      |
| <b>2032 Buildout Total</b>      | 700                                 | 376     | 0     | 0      | 0                                   | 535     | 279   | 0      | 308                                           | 142     | 198   | 0      |

## **PM PEAK HOUR**

| Description                     | Stallings Road<br><u>Northbound</u> |         |       |        | Stallings Road<br><u>Southbound</u> |         |       |        | Monroe Expressway WB Ramp<br><u>Westbound</u> |         |       |        |
|---------------------------------|-------------------------------------|---------|-------|--------|-------------------------------------|---------|-------|--------|-----------------------------------------------|---------|-------|--------|
|                                 | Left                                | Through | Right | U-turn | Left                                | Through | Right | U-turn | Left                                          | Through | Right | U-turn |
| Observed Volumes                | 404                                 | 306     | 0     | 0      | 0                                   | 230     | 132   | 0      | 109                                           | 99      | 102   | 0      |
| Balanced Volumes                | 2                                   | 1       | 0     | 0      | 0                                   | 5       | 0     | 0      | 2                                             | 0       | 0     | 0      |
| 2020 Existing Traffic           | 406                                 | 307     | 0     | 0      | 0                                   | 235     | 132   | 0      | 111                                           | 99      | 102   | 0      |
| Conflicting Peds                | 0                                   | 0       | 0     | 0      | 0                                   | 0       | 0     | 0      | 0                                             | 0       | 0     | 0      |
| Conflicting Bikes               |                                     | 0       |       |        |                                     | 0       |       |        |                                               | 0       |       |        |
|                                 | 0.79                                | 0.91    | 0.90  | 0.90   | 0.90                                | 0.93    | 0.72  | 0.90   | 0.97                                          | 0.85    | 0.88  | 0.90   |
| 2020 PHF                        | 0.90                                | 0.90    | 0.90  | 0.90   | 0.90                                | 0.90    | 0.90  | 0.90   | 0.90                                          | 0.90    | 0.90  | 0.90   |
| 2027 PHF                        | 2%                                  | 2%      | 2%    | 2%     | 2%                                  | 3%      | 2%    | 2%     | 5%                                            | 2%      | 2%    | 2%     |
| Heavy Vehicle %                 |                                     |         |       |        |                                     |         |       |        |                                               |         |       |        |
| Annual Growth Rate              | 3.5%                                | 3.5%    | 3.5%  | 3.5%   | 3.5%                                | 3.5%    | 3.5%  | 3.5%   | 3.5%                                          | 3.5%    | 3.5%  | 3.5%   |
| 2027 Background Traffic (No AD) | 517                                 | 391     | 0     | 0      | 0                                   | 299     | 168   | 0      | 141                                           | 126     | 130   | 0      |
| 2032 Background Traffic (No AD) | 613                                 | 464     | 0     | 0      | 0                                   | 355     | 199   | 0      | 168                                           | 150     | 154   | 0      |
| Atrium Stallings                | 148                                 | 32      | 0     | 0      | 0                                   | 23      | 0     | 0      | 95                                            | 0       | 0     | 0      |
| Union Park Townhomes            | 0                                   | 41      | 0     | 0      | 0                                   | 20      | 18    | 0      | 0                                             | 0       | 22    | 0      |
| Willows at Stallings            | 0                                   | 36      | 0     | 0      | 0                                   | 22      | 14    | 0      | 0                                             | 0       | 22    | 0      |
| Harmony Hills                   | 0                                   | 1       | 0     | 0      | 0                                   | 1       | 0     | 0      | 0                                             | 0       | 1     | 0      |
| Oakspring Development           | 0                                   | 12      | 0     | 0      | 0                                   | 6       | 4     | 0      | 0                                             | 0       | 4     | 0      |
| Approved Development Trips      | 148                                 | 122     | 0     | 0      | 0                                   | 72      | 36    | 0      | 95                                            | 0       | 49    | 0      |
| 2027 Background Traffic         | 665                                 | 513     | 0     | 0      | 0                                   | 371     | 204   | 0      | 236                                           | 126     | 179   | 0      |
| 2032 Background Traffic         | 761                                 | 586     | 0     | 0      | 0                                   | 427     | 235   | 0      | 263                                           | 150     | 203   | 0      |
| Percent Inbound Assignment      | 0%                                  | 40%     | 0%    | 0%     | 0%                                  | 0%      | 0%    | 0%     | 0%                                            | 0%      | 25%   | 0%     |
| Percent Outbound Assignment     | 0%                                  | 0%      | 0%    | 0%     | 0%                                  | 40%     | 25%   | 0%     | 0%                                            | 0%      | 0%    | 0%     |
| Project Trips                   | 0                                   | 55      | 0     | 0      | 0                                   | 32      | 21    | 0      | 0                                             | 0       | 34    | 0      |
| Project Trips (Total)           | 0                                   | 55      | 0     | 0      | 0                                   | 32      | 21    | 0      | 0                                             | 0       | 34    | 0      |
| <b>2027 Buildout Total</b>      | 665                                 | 568     | 0     | 0      | 0                                   | 403     | 225   | 0      | 236                                           | 126     | 213   | 0      |
| <b>2032 Buildout Total</b>      | 761                                 | 641     | 0     | 0      | 0                                   | 459     | 256   | 0      | 263                                           | 150     | 237   | 0      |



## INTERSECTION VOLUME DEVELOPMENT

### Stallings Road and Monroe Expressway EB Ramp AM PEAK HOUR

| Description                     | Stallings Road<br><u>Northbound</u> |         |       |        | Stallings Road<br><u>Southbound</u> |         |       |        | Monroe Expressway EB Ramp<br><u>Eastbound</u> |         |       |        |
|---------------------------------|-------------------------------------|---------|-------|--------|-------------------------------------|---------|-------|--------|-----------------------------------------------|---------|-------|--------|
|                                 | Left                                | Through | Right | U-turn | Left                                | Through | Right | U-turn | Left                                          | Through | Right | U-turn |
| Observed Volumes                | 0                                   | 476     | 39    | 0      | 100                                 | 273     | 0     | 0      | 152                                           | 82      | 261   | 0      |
| Balanced Volumes                | 0                                   | 0       | 0     | 0      | 0                                   | 0       | 0     | 0      | 0                                             | 0       | 0     | 0      |
| 2020 Existing Traffic           | 0                                   | 476     | 39    | 0      | 100                                 | 273     | 0     | 0      | 152                                           | 82      | 261   | 0      |
| Conflicting Peds                | 0                                   | 0       | 0     | 0      | 0                                   | 0       | 0     | 0      | 0                                             | 0       | 0     | 0      |
| Conflicting Bikes               |                                     | 0       |       |        |                                     | 0       |       |        |                                               | 0       |       |        |
|                                 | 0.90                                | 0.92    | 0.61  | 0.90   | 0.76                                | 0.94    | 0.90  | 0.90   | 0.78                                          | 0.71    | 0.79  | 0.90   |
| 2027 Background PHF             | 0.90                                | 0.92    | 0.67  | 0.90   | 0.80                                | 0.92    | 0.90  | 0.90   | 0.79                                          | 0.78    | 0.81  | 0.90   |
| 2027 Buildout PHF               | 0.90                                | 0.92    | 0.67  | 0.90   | 0.81                                | 0.92    | 0.90  | 0.90   | 0.79                                          | 0.78    | 0.81  | 0.90   |
| Heavy Vehicle %                 | 2%                                  | 8%      | 5%    | 2%     | 5%                                  | 3%      | 2%    | 2%     | 4%                                            | 7%      | 3%    | 2%     |
| Annual Growth Rate              | 3.5%                                | 3.5%    | 3.5%  | 3.5%   | 3.5%                                | 3.5%    | 3.5%  | 3.5%   | 3.5%                                          | 3.5%    | 3.5%  | 3.5%   |
| 2027 Background Traffic (No AD) | 0                                   | 606     | 50    | 0      | 127                                 | 347     | 0     | 0      | 193                                           | 104     | 332   | 0      |
| 2032 Background Traffic (No AD) | 0                                   | 719     | 59    | 0      | 151                                 | 413     | 0     | 0      | 230                                           | 124     | 394   | 0      |
| Atrium Stallings                | 0                                   | 83      | 12    | 0      | 0                                   | 155     | 0     | 0      | 0                                             | 60      | 75    | 0      |
| Union Park Townhomes            | 0                                   | 3       | 0     | 0      | 22                                  | 12      | 0     | 0      | 10                                            | 0       | 0     | 0      |
| Willows at Stallings            | 0                                   | 5       | 0     | 0      | 21                                  | 13      | 0     | 0      | 6                                             | 0       | 0     | 0      |
| Harmony Hills                   | 0                                   | 2       | 0     | 0      | 0                                   | 1       | 0     | 0      | 0                                             | 0       | 0     | 0      |
| Oakspring Development           | 0                                   | 2       | 0     | 0      | 2                                   | 5       | 0     | 0      | 0                                             | 0       | 0     | 0      |
| Approved Development Trips      | 0                                   | 95      | 12    | 0      | 45                                  | 186     | 0     | 0      | 16                                            | 60      | 75    | 0      |
| 2027 Background Traffic         | 0                                   | 701     | 62    | 0      | 172                                 | 534     | 0     | 0      | 209                                           | 164     | 407   | 0      |
| 2032 Background Traffic         | 0                                   | 814     | 71    | 0      | 196                                 | 599     | 0     | 0      | 246                                           | 184     | 469   | 0      |
| Percent Inbound Assignment      | 0%                                  | 15%     | 0%    | 0%     | 0%                                  | 0%      | 0%    | 0%     | 25%                                           | 0%      | 0%    | 0%     |
| Percent Outbound Assignment     | 0%                                  | 0%      | 0%    | 0%     | 25%                                 | 15%     | 0%    | 0%     | 0%                                            | 0%      | 0%    | 0%     |
| Project Trips                   | 0                                   | 6       | 0     | 0      | 30                                  | 18      | 0     | 0      | 10                                            | 0       | 0     | 0      |
| Project Trips (Total)           | 0                                   | 6       | 0     | 0      | 30                                  | 18      | 0     | 0      | 10                                            | 0       | 0     | 0      |
| <b>2027 Buildout Total</b>      | 0                                   | 707     | 62    | 0      | 202                                 | 552     | 0     | 0      | 219                                           | 164     | 407   | 0      |
| <b>2032 Buildout Total</b>      | 0                                   | 820     | 71    | 0      | 226                                 | 617     | 0     | 0      | 256                                           | 184     | 469   | 0      |

### PM PEAK HOUR

| Description                     | Stallings Road<br><u>Northbound</u> |         |       |        | Stallings Road<br><u>Southbound</u> |         |       |        | Monroe Expressway EB Ramp<br><u>Eastbound</u> |         |       |        |
|---------------------------------|-------------------------------------|---------|-------|--------|-------------------------------------|---------|-------|--------|-----------------------------------------------|---------|-------|--------|
|                                 | Left                                | Through | Right | U-turn | Left                                | Through | Right | U-turn | Left                                          | Through | Right | U-turn |
| Observed Volumes                | 0                                   | 489     | 87    | 0      | 101                                 | 245     | 0     | 0      | 224                                           | 93      | 306   | 0      |
| Balanced Volumes                | 0                                   | 0       | 0     | 0      | 0                                   | 0       | 0     | 0      | 0                                             | 0       | 0     | 0      |
| 2020 Existing Traffic           | 0                                   | 489     | 87    | 0      | 101                                 | 245     | 0     | 0      | 224                                           | 93      | 306   | 0      |
| Conflicting Peds                | 0                                   | 1       | 0     | 0      | 1                                   | 0       | 0     | 0      | 1                                             | 0       | 0     | 0      |
| Conflicting Bikes               |                                     | 0       |       |        |                                     | 0       |       |        |                                               | 0       |       |        |
|                                 | 0.90                                | 0.90    | 0.84  | 0.90   | 0.77                                | 0.91    | 0.90  | 0.90   | 0.66                                          | 0.73    | 0.82  | 0.90   |
| 2027 PHF                        | 0.90                                | 0.90    | 0.90  | 0.90   | 0.90                                | 0.90    | 0.90  | 0.90   | 0.90                                          | 0.90    | 0.90  | 0.90   |
| Heavy Vehicle %                 | 2%                                  | 2%      | 2%    | 2%     | 2%                                  | 4%      | 2%    | 2%     | 2%                                            | 2%      | 4%    | 2%     |
| Annual Growth Rate              | 3.5%                                | 3.5%    | 3.5%  | 3.5%   | 3.5%                                | 3.5%    | 3.5%  | 3.5%   | 3.5%                                          | 3.5%    | 3.5%  | 3.5%   |
| 2027 Background Traffic (No AD) | 0                                   | 622     | 111   | 0      | 129                                 | 312     | 0     | 0      | 285                                           | 118     | 389   | 0      |
| 2032 Background Traffic (No AD) | 0                                   | 739     | 131   | 0      | 153                                 | 370     | 0     | 0      | 338                                           | 141     | 462   | 0      |
| Atrium Stallings                | 0                                   | 180     | 27    | 0      | 0                                   | 118     | 0     | 0      | 0                                             | 46      | 57    | 0      |
| Union Park Townhomes            | 0                                   | 11      | 0     | 0      | 13                                  | 7       | 0     | 0      | 30                                            | 0       | 0     | 0      |
| Willows at Stallings            | 0                                   | 13      | 0     | 0      | 13                                  | 9       | 0     | 0      | 23                                            | 0       | 0     | 0      |
| Harmony Hills                   | 0                                   | 1       | 0     | 0      | 0                                   | 1       | 0     | 0      | 0                                             | 0       | 0     | 0      |
| Oakspring Development           | 0                                   | 8       | 0     | 0      | 4                                   | 2       | 0     | 0      | 4                                             | 0       | 0     | 0      |
| Approved Development Trips      | 0                                   | 213     | 27    | 0      | 30                                  | 137     | 0     | 0      | 57                                            | 46      | 57    | 0      |
| 2027 Background Traffic         | 0                                   | 835     | 138   | 0      | 159                                 | 449     | 0     | 0      | 342                                           | 164     | 446   | 0      |
| 2032 Background Traffic         | 0                                   | 952     | 158   | 0      | 183                                 | 507     | 0     | 0      | 395                                           | 187     | 519   | 0      |
| Percent Inbound Assignment      | 0%                                  | 15%     | 0%    | 0%     | 0%                                  | 0%      | 0%    | 0%     | 25%                                           | 0%      | 0%    | 0%     |
| Percent Outbound Assignment     | 0%                                  | 0%      | 0%    | 0%     | 25%                                 | 15%     | 0%    | 0%     | 0%                                            | 0%      | 0%    | 0%     |
| Project Trips                   | 0                                   | 21      | 0     | 0      | 20                                  | 12      | 0     | 0      | 34                                            | 0       | 0     | 0      |
| Project Trips (Total)           | 0                                   | 21      | 0     | 0      | 20                                  | 12      | 0     | 0      | 34                                            | 0       | 0     | 0      |
| <b>2027 Buildout Total</b>      | 0                                   | 856     | 138   | 0      | 179                                 | 461     | 0     | 0      | 376                                           | 164     | 446   | 0      |
| <b>2032 Buildout Total</b>      | 0                                   | 973     | 158   | 0      | 203                                 | 519     | 0     | 0      | 429                                           | 187     | 519   | 0      |

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# **INTERSECTION VOLUME DEVELOPMENT**

## **Stallings Road and Matthews-Indian Trail Road AM PEAK HOUR**

| Description                     | Stallings Road<br><u>Northbound</u> |         |       |        | Stallings Road<br><u>Southbound</u> |         |       |        | Matthews-Indian Trail Road<br><u>Eastbound</u> |         |       |        | Matthews-Indian Trail Road<br><u>Westbound</u> |         |       |        |
|---------------------------------|-------------------------------------|---------|-------|--------|-------------------------------------|---------|-------|--------|------------------------------------------------|---------|-------|--------|------------------------------------------------|---------|-------|--------|
|                                 | Left                                | Through | Right | U-turn | Left                                | Through | Right | U-turn | Left                                           | Through | Right | U-turn | Left                                           | Through | Right | U-turn |
| Observed Volumes                | 97                                  | 436     | 38    | 0      | 85                                  | 412     | 36    | 0      | 12                                             | 16      | 50    | 0      | 61                                             | 39      | 65    | 0      |
| Balanced Volumes                | 0                                   | 0       | 0     | 0      | 0                                   | 0       | 0     | 0      | 0                                              | 0       | 0     | 0      | 0                                              | 0       | 0     | 0      |
| 2020 Existing Traffic           | 97                                  | 436     | 38    | 0      | 85                                  | 412     | 36    | 0      | 12                                             | 16      | 50    | 0      | 61                                             | 39      | 65    | 0      |
| Conflicting Peds                | 0                                   | 0       | 0     | 0      | 0                                   | 0       | 0     | 0      | 0                                              | 0       | 0     | 0      | 0                                              | 0       | 0     | 0      |
| Conflicting Bikes               |                                     | 0       |       |        |                                     | 0       |       |        |                                                | 0       |       |        |                                                | 0       |       |        |
|                                 | 0.81                                | 0.87    | 0.73  | 0.90   | 0.85                                | 0.89    | 0.82  | 0.90   | 0.75                                           | 0.67    | 0.74  | 0.90   | 0.61                                           | 0.70    | 0.71  | 0.90   |
| 2020 Existing PHF               | 0.81                                | 0.87    | 0.82  | 0.90   | 0.87                                | 0.89    | 0.82  | 0.90   | 0.79                                           | 0.72    | 0.74  | 0.90   | 0.68                                           | 0.71    | 0.76  | 0.90   |
| 2027 Background PHF             | 0.81                                | 0.87    | 0.82  | 0.90   | 0.87                                | 0.89    | 0.82  | 0.90   | 0.79                                           | 0.72    | 0.74  | 0.90   | 0.68                                           | 0.71    | 0.76  | 0.90   |
| 2027 Buildout PHF               | 2%                                  | 8%      | 8%    | 2%     | 2%                                  | 3%      | 2%    | 2%     | 17%                                            | 2%      | 6%    | 2%     | 23%                                            | 8%      | 3%    | 2%     |
| Heavy Vehicle %                 |                                     |         |       |        |                                     |         |       |        |                                                |         |       |        |                                                |         |       |        |
| Annual Growth Rate              | 3.5%                                | 3.5%    | 3.5%  | 3.5%   | 3.5%                                | 3.5%    | 3.5%  | 3.5%   | 3.5%                                           | 3.5%    | 3.5%  | 3.5%   | 3.5%                                           | 3.5%    | 3.5%  | 3.5%   |
| 2027 Background Traffic (No AD) | 123                                 | 555     | 48    | 0      | 108                                 | 524     | 46    | 0      | 15                                             | 20      | 64    | 0      | 78                                             | 50      | 83    | 0      |
| 2032 Background Traffic (No AD) | 147                                 | 659     | 57    | 0      | 128                                 | 623     | 54    | 0      | 18                                             | 24      | 76    | 0      | 92                                             | 59      | 98    | 0      |
| Atrium Stallings                | 0                                   | 50      | 50    | 0      | 50                                  | 25      | 3     | 0      | 5                                              | 5       | 0     | 0      | 25                                             | 3       | 25    | 0      |
| Union Park Townhomes            | 0                                   | 2       | 0     | 0      | 4                                   | 8       | 0     | 0      | 0                                              | 0       | 0     | 0      | 0                                              | 0       | 1     | 0      |
| Willows at Stallings            | 0                                   | 3       | 0     | 0      | 4                                   | 9       | 0     | 0      | 0                                              | 0       | 0     | 0      | 0                                              | 0       | 2     | 0      |
| Harmony Hills                   | 0                                   | 2       | 0     | 0      | 0                                   | 1       | 0     | 0      | 0                                              | 0       | 0     | 0      | 0                                              | 0       | 0     | 0      |
| Oakspring Development           | 0                                   | 2       | 0     | 0      | 1                                   | 4       | 0     | 0      | 0                                              | 0       | 0     | 0      | 0                                              | 0       | 0     | 0      |
| Approved Development Trips      | 0                                   | 59      | 50    | 0      | 59                                  | 47      | 3     | 0      | 5                                              | 5       | 0     | 0      | 25                                             | 3       | 28    | 0      |
| 2027 Background Traffic         | 123                                 | 614     | 98    | 0      | 167                                 | 571     | 49    | 0      | 20                                             | 25      | 64    | 0      | 103                                            | 53      | 111   | 0      |
| 2032 Background Traffic         | 147                                 | 718     | 107   | 0      | 187                                 | 670     | 57    | 0      | 23                                             | 29      | 76    | 0      | 117                                            | 62      | 126   | 0      |
| Percent Inbound Assignment      | 0%                                  | 10%     | 0%    | 0%     | 0%                                  | 0%      | 0%    | 0%     | 0%                                             | 0%      | 0%    | 0%     | 0%                                             | 0%      | 5%    | 0%     |
| Percent Outbound Assignment     | 0%                                  | 0%      | 0%    | 0%     | 5%                                  | 10%     | 0%    | 0%     | 0%                                             | 0%      | 0%    | 0%     | 0%                                             | 0%      | 0%    | 0%     |
| Project Trips                   | 0                                   | 4       | 0     | 0      | 6                                   | 12      | 0     | 0      | 0                                              | 0       | 0     | 0      | 0                                              | 0       | 2     | 0      |
| Project Trips (Total)           | 0                                   | 4       | 0     | 0      | 6                                   | 12      | 0     | 0      | 0                                              | 0       | 0     | 0      | 0                                              | 0       | 2     | 0      |
| 2027 Buildout Total             | 123                                 | 618     | 98    | 0      | 173                                 | 583     | 49    | 0      | 20                                             | 25      | 64    | 0      | 103                                            | 53      | 113   | 0      |
| 2032 Buildout Total             | 147                                 | 722     | 107   | 0      | 193                                 | 682     | 57    | 0      | 23                                             | 29      | 76    | 0      | 117                                            | 62      | 128   | 0      |

## **PM PEAK HOUR**

| Description                     | Stallings Road<br><u>Northbound</u> |         |       |        | Stallings Road<br><u>Southbound</u> |         |       |        | Matthews-Indian Trail Road<br><u>Eastbound</u> |         |       |        | Matthews-Indian Trail Road<br><u>Westbound</u> |         |       |        |
|---------------------------------|-------------------------------------|---------|-------|--------|-------------------------------------|---------|-------|--------|------------------------------------------------|---------|-------|--------|------------------------------------------------|---------|-------|--------|
|                                 | Left                                | Through | Right | U-turn | Left                                | Through | Right | U-turn | Left                                           | Through | Right | U-turn | Left                                           | Through | Right | U-turn |
| Observed Volumes                | 29                                  | 462     | 42    | 0      | 71                                  | 451     | 30    | 0      | 21                                             | 54      | 104   | 0      | 45                                             | 25      | 91    | 0      |
| Balanced Volumes                | 0                                   | 0       | 0     | 0      | 0                                   | 0       | 0     | 0      | 0                                              | 0       | 0     | 0      | 0                                              | 0       | 0     | 0      |
| 2020 Existing Traffic           | 29                                  | 462     | 42    | 0      | 71                                  | 451     | 30    | 0      | 21                                             | 54      | 104   | 0      | 45                                             | 25      | 91    | 0      |
| Conflicting Peds                | 0                                   | 1       | 0     | 0      | 1                                   | 0       | 0     | 0      | 0                                              | 0       | 0     | 0      | 0                                              | 0       | 0     | 0      |
| Conflicting Bikes               |                                     | 0       |       |        |                                     | 0       |       |        |                                                | 0       |       |        |                                                | 0       |       |        |
|                                 | 0.60                                | 0.88    | 0.88  | 0.90   | 0.66                                | 0.98    | 0.68  | 0.90   | 0.75                                           | 0.79    | 0.68  | 0.90   | 0.63                                           | 0.57    | 0.56  | 0.90   |
| 2020 PHF                        | 0.90                                | 0.90    | 0.90  | 0.90   | 0.90                                | 0.90    | 0.90  | 0.90   | 0.90                                           | 0.90    | 0.90  | 0.90   | 0.90                                           | 0.90    | 0.90  | 0.90   |
| 2027 PHF                        | 2%                                  | 2%      | 10%   | 2%     | 2%                                  | 4%      | 3%    | 2%     | 2%                                             | 2%      | 2%    | 2%     | 2%                                             | 2%      | 2%    | 2%     |
| Heavy Vehicle %                 |                                     |         |       |        |                                     |         |       |        |                                                |         |       |        |                                                |         |       |        |
| Annual Growth Rate              | 3.5%                                | 3.5%    | 3.5%  | 3.5%   | 3.5%                                | 3.5%    | 3.5%  | 3.5%   | 3.5%                                           | 3.5%    | 3.5%  | 3.5%   | 3.5%                                           | 3.5%    | 3.5%  | 3.5%   |
| 2027 Background Traffic (No AD) | 37                                  | 588     | 53    | 0      | 90                                  | 574     | 38    | 0      | 27                                             | 69      | 132   | 0      | 57                                             | 32      | 116   | 0      |
| 2032 Background Traffic (No AD) | 44                                  | 698     | 63    | 0      | 107                                 | 681     | 45    | 0      | 32                                             | 82      | 157   | 0      | 68                                             | 38      | 138   | 0      |
| Atrium Stallings                | 0                                   | 38      | 38    | 0      | 38                                  | 55      | 5     | 0      | 4                                              | 4       | 0     | 0      | 55                                             | 6       | 54    | 0      |
| Union Park Townhomes            | 0                                   | 7       | 0     | 0      | 2                                   | 5       | 0     | 0      | 0                                              | 0       | 0     | 0      | 0                                              | 0       | 4     | 0      |
| Willows at Stallings            | 0                                   | 9       | 0     | 0      | 3                                   | 6       | 0     | 0      | 0                                              | 0       | 0     | 0      | 0                                              | 0       | 4     | 0      |
| Harmony Hills                   | 0                                   | 1       | 0     | 0      | 0                                   | 1       | 0     | 0      | 0                                              | 0       | 0     | 0      | 0                                              | 0       | 0     | 0      |
| Oakspring Development           | 0                                   | 7       | 0     | 0      | 0                                   | 3       | 0     | 0      | 0                                              | 0       | 0     | 0      | 0                                              | 0       | 1     | 0      |
| Approved Development Trips      | 0                                   | 62      | 38    | 0      | 43                                  | 70      | 5     | 0      | 4                                              | 4       | 0     | 0      | 55                                             | 6       | 63    | 0      |
| 2027 Background Traffic         | 37                                  | 650     | 91    | 0      | 133                                 | 644     | 43    | 0      | 31                                             | 73      | 132   | 0      | 112                                            | 38      | 179   | 0      |
| 2032 Background Traffic         | 44                                  | 760     | 101   | 0      | 150                                 | 751     | 50    | 0      | 36                                             | 86      | 157   | 0      | 123                                            | 44      | 201   | 0      |
| Percent Inbound Assignment      | 0%                                  | 10%     | 0%    | 0%     | 0%                                  | 0%      | 0%    | 0%     | 0%                                             | 0%      | 0%    | 0%     | 0%                                             | 0%      | 5%    | 0%     |
| Percent Outbound Assignment     | 0%                                  | 0%      | 0%    | 0%     | 5%                                  | 10%     | 0%    | 0%     | 0%                                             | 0%      | 0%    | 0%     | 0%                                             | 0%      | 0%    | 0%     |
| Project Trips                   | 0                                   | 14      | 0     | 0      | 4                                   | 8       | 0     | 0      | 0                                              | 0       | 0     | 0      | 0                                              | 0       | 7     | 0      |
| Project Trips (Total)           | 0                                   | 14      | 0     | 0      | 4                                   | 8       | 0     | 0      | 0                                              | 0       | 0     | 0      | 0                                              | 0       | 7     | 0      |
| 2027 Buildout Total             | 37                                  | 664     | 91    | 0      | 137                                 | 652     | 43    | 0      | 31                                             | 73      | 132   | 0      | 112                                            | 38      | 186   | 0      |
| 2032 Buildout Total             | 44                                  | 774     | 101   | 0      | 154                                 | 759     | 50    | 0      | 36                                             | 86      | 157   | 0      | 123                                            | 44      | 208   | 0      |

# **INTERSECTION VOLUME DEVELOPMENT**

## **Mt Harmony Church Rd and Stevens Mill Road AM PEAK HOUR**

| Description                     | Mt Harmony Church Rd<br>Northbound |         |       |        | Mt Harmony Church Rd<br>Southbound |         |       |        | Stevens Mill Road<br>Eastbound |         |       |        | Stevens Mill Road<br>Westbound |         |       |        |
|---------------------------------|------------------------------------|---------|-------|--------|------------------------------------|---------|-------|--------|--------------------------------|---------|-------|--------|--------------------------------|---------|-------|--------|
|                                 | Left                               | Through | Right | U-turn | Left                               | Through | Right | U-turn | Left                           | Through | Right | U-turn | Left                           | Through | Right | U-turn |
| Observed Volumes                | 6                                  | 94      | 44    | 0      | 119                                | 64      | 16    | 0      | 6                              | 3       | 2     | 0      | 40                             | 7       | 238   | 0      |
| Balanced Volumes                | 0                                  | 0       | 0     | 0      | 0                                  | 0       | 0     | 0      | 0                              | 0       | 0     | 0      | 0                              | 0       | 0     | 0      |
| 2020 Existing Traffic           | 6                                  | 94      | 44    | 0      | 119                                | 64      | 16    | 0      | 6                              | 3       | 2     | 0      | 40                             | 7       | 238   | 0      |
| Conflicting Peds                | 0                                  | 0       | 0     | 0      | 0                                  | 0       | 0     | 0      | 0                              | 0       | 0     | 0      | 0                              | 0       | 0     | 0      |
| Conflicting Bikes               | 0                                  | 0       | 0     | 0      | 0                                  | 0       | 0     | 0      | 0                              | 0       | 0     | 0      | 0                              | 0       | 0     | 0      |
| 2020 Existing PHF               | 0.38                               | 0.65    | 0.61  | 0.90   | 0.63                               | 0.70    | 0.57  | 0.90   | 0.38                           | 0.25    | 0.25  | 0.90   | 0.59                           | 0.44    | 0.74  | 0.90   |
| 2027 Background PHF             | 0.38                               | 0.65    | 0.62  | 0.90   | 0.65                               | 0.70    | 0.57  | 0.90   | 0.48                           | 0.38    | 0.25  | 0.90   | 0.60                           | 0.69    | 0.76  | 0.90   |
| 2027 Buildout PHF               | 0.38                               | 0.65    | 0.62  | 0.90   | 0.66                               | 0.70    | 0.57  | 0.90   | 0.48                           | 0.38    | 0.25  | 0.90   | 0.60                           | 0.69    | 0.77  | 0.90   |
| Heavy Vehicle %                 | 2%                                 | 2%      | 7%    | 2%     | 2%                                 | 2%      | 13%   | 2%     | 17%                            | 33%     | 50%   | 2%     | 3%                             | 57%     | 7%    | 2%     |
| Annual Growth Rate              | 3.5%                               | 3.5%    | 3.5%  | 3.5%   | 3.5%                               | 3.5%    | 3.5%  | 3.5%   | 3.5%                           | 3.5%    | 3.5%  | 3.5%   | 3.5%                           | 3.5%    | 3.5%  | 3.5%   |
| 2027 Background Traffic (No AD) | 8                                  | 120     | 56    | 0      | 151                                | 81      | 20    | 0      | 8                              | 4       | 3     | 0      | 51                             | 9       | 303   | 0      |
| 2032 Background Traffic (No AD) | 9                                  | 142     | 66    | 0      | 180                                | 97      | 24    | 0      | 9                              | 5       | 3     | 0      | 60                             | 11      | 360   | 0      |
| Atrium Stallings                | 0                                  | 0       | 1     | 0      | 4                                  | 0       | 0     | 0      | 0                              | 0       | 0     | 0      | 0                              | 0       | 3     | 0      |
| Union Park Townhomes            | 0                                  | 0       | 0     | 0      | 1                                  | 0       | 0     | 0      | 0                              | 0       | 0     | 0      | 1                              | 0       | 3     | 0      |
| Willows at Stallings            | 0                                  | 0       | 0     | 0      | 5                                  | 0       | 0     | 0      | 0                              | 0       | 0     | 0      | 0                              | 0       | 13    | 0      |
| Harmony Hills                   | 0                                  | 0       | 0     | 0      | 3                                  | 1       | 0     | 0      | 2                              | 1       | 0     | 0      | 0                              | 11      | 12    | 0      |
| Oakspring Development           | 0                                  | 0       | 0     | 0      | 2                                  | 0       | 0     | 0      | 0                              | 0       | 0     | 0      | 0                              | 0       | 9     | 0      |
| Approved Development Trips      | 0                                  | 0       | 1     | 0      | 15                                 | 1       | 0     | 0      | 2                              | 1       | 0     | 0      | 1                              | 11      | 40    | 0      |
| 2027 Background Traffic         | 8                                  | 120     | 57    | 0      | 166                                | 82      | 20    | 0      | 10                             | 5       | 3     | 0      | 52                             | 20      | 343   | 0      |
| 2032 Background Traffic         | 9                                  | 142     | 67    | 0      | 195                                | 98      | 24    | 0      | 11                             | 6       | 3     | 0      | 61                             | 22      | 400   | 0      |
| Percent Inbound Assignment      | 0%                                 | 0%      | 0%    | 0%     | 15%                                | 0%      | 0%    | 0%     | 0%                             | 0%      | 0%    | 0%     | 0%                             | 0%      | 0%    | 0%     |
| Percent Outbound Assignment     | 0%                                 | 0%      | 0%    | 0%     | 0%                                 | 0%      | 0%    | 0%     | 0%                             | 0%      | 0%    | 0%     | 0%                             | 0%      | 15%   | 0%     |
| Project Trips                   | 0                                  | 0       | 0     | 0      | 6                                  | 0       | 0     | 0      | 0                              | 0       | 0     | 0      | 0                              | 0       | 18    | 0      |
| Project Trips (Total)           | 0                                  | 0       | 0     | 0      | 6                                  | 0       | 0     | 0      | 0                              | 0       | 0     | 0      | 0                              | 0       | 18    | 0      |
| 2027 Buildout Total             | 8                                  | 120     | 57    | 0      | 172                                | 82      | 20    | 0      | 10                             | 5       | 3     | 0      | 52                             | 20      | 361   | 0      |
| 2032 Buildout Total             | 9                                  | 142     | 67    | 0      | 201                                | 98      | 24    | 0      | 11                             | 6       | 3     | 0      | 61                             | 22      | 418   | 0      |

## **PM PEAK HOUR**

| Description                     | Mt Harmony Church Rd<br>Northbound |         |       |        | Mt Harmony Church Rd<br>Southbound |         |       |        | Stevens Mill Road<br>Eastbound |         |       |        | Stevens Mill Road<br>Westbound |         |       |        |
|---------------------------------|------------------------------------|---------|-------|--------|------------------------------------|---------|-------|--------|--------------------------------|---------|-------|--------|--------------------------------|---------|-------|--------|
|                                 | Left                               | Through | Right | U-turn | Left                               | Through | Right | U-turn | Left                           | Through | Right | U-turn | Left                           | Through | Right | U-turn |
| Observed Volumes                | 3                                  | 96      | 56    | 0      | 98                                 | 35      | 1     | 0      | 9                              | 5       | 1     | 0      | 6                              | 1       | 37    | 0      |
| Balanced Volumes                | 0                                  | 0       | 0     | 0      | 0                                  | 0       | 0     | 0      | 0                              | 0       | 0     | 0      | 0                              | 0       | 0     | 0      |
| 2020 Existing Traffic           | 3                                  | 96      | 56    | 0      | 98                                 | 35      | 1     | 0      | 9                              | 5       | 1     | 0      | 6                              | 1       | 37    | 0      |
| Conflicting Peds                | 0                                  | 0       | 0     | 0      | 0                                  | 0       | 0     | 0      | 0                              | 0       | 0     | 0      | 0                              | 0       | 0     | 0      |
| Conflicting Bikes               | 0                                  | 0       | 0     | 0      | 0                                  | 0       | 0     | 0      | 0                              | 0       | 0     | 0      | 0                              | 0       | 0     | 0      |
| 2020 PHF                        | 0.38                               | 0.86    | 0.74  | 0.90   | 0.77                               | 0.88    | 0.25  | 0.90   | 0.56                           | 0.31    | 0.25  | 0.90   | 0.38                           | 0.25    | 0.93  | 0.90   |
| 2027 PHF                        | 0.90                               | 0.90    | 0.90  | 0.90   | 0.90                               | 0.90    | 0.90  | 0.90   | 0.90                           | 0.90    | 0.90  | 0.90   | 0.90                           | 0.90    | 0.90  | 0.90   |
| Heavy Vehicle %                 | 33%                                | 2%      | 7%    | 2%     | 2%                                 | 3%      | 2%    | 2%     | 2%                             | 40%     | 2%    | 2%     | 2%                             | 2%      | 3%    | 2%     |
| Annual Growth Rate              | 3.5%                               | 3.5%    | 3.5%  | 3.5%   | 3.5%                               | 3.5%    | 3.5%  | 3.5%   | 3.5%                           | 3.5%    | 3.5%  | 3.5%   | 3.5%                           | 3.5%    | 3.5%  | 3.5%   |
| 2027 Background Traffic (No AD) | 4                                  | 122     | 71    | 0      | 125                                | 45      | 1     | 0      | 11                             | 6       | 1     | 0      | 8                              | 1       | 47    | 0      |
| 2032 Background Traffic (No AD) | 5                                  | 145     | 85    | 0      | 148                                | 53      | 2     | 0      | 14                             | 8       | 2     | 0      | 9                              | 2       | 56    | 0      |
| Atrium Stallings                | 0                                  | 0       | 1     | 0      | 3                                  | 0       | 0     | 0      | 0                              | 0       | 0     | 0      | 1                              | 0       | 4     | 0      |
| Union Park Townhomes            | 0                                  | 0       | 1     | 0      | 3                                  | 0       | 0     | 0      | 0                              | 0       | 0     | 0      | 0                              | 0       | 2     | 0      |
| Willows at Stallings            | 0                                  | 0       | 0     | 0      | 13                                 | 0       | 0     | 0      | 0                              | 0       | 0     | 0      | 0                              | 0       | 9     | 0      |
| Harmony Hills                   | 0                                  | 0       | 0     | 0      | 9                                  | 3       | 0     | 0      | 7                              | 4       | 0     | 0      | 0                              | 6       | 7     | 0      |
| Oakspring Development           | 0                                  | 0       | 3     | 0      | 7                                  | 0       | 0     | 0      | 0                              | 0       | 0     | 0      | 0                              | 0       | 3     | 0      |
| Approved Development Trips      | 0                                  | 0       | 5     | 0      | 35                                 | 3       | 0     | 0      | 7                              | 4       | 0     | 0      | 1                              | 6       | 25    | 0      |
| 2027 Background Traffic         | 4                                  | 122     | 76    | 0      | 160                                | 48      | 1     | 0      | 18                             | 10      | 1     | 0      | 9                              | 7       | 72    | 0      |
| 2032 Background Traffic         | 5                                  | 145     | 90    | 0      | 183                                | 56      | 2     | 0      | 21                             | 12      | 2     | 0      | 10                             | 8       | 81    | 0      |
| Percent Inbound Assignment      | 0%                                 | 0%      | 0%    | 0%     | 15%                                | 0%      | 0%    | 0%     | 0%                             | 0%      | 0%    | 0%     | 0%                             | 0%      | 0%    | 0%     |
| Percent Outbound Assignment     | 0%                                 | 0%      | 0%    | 0%     | 0%                                 | 0%      | 0%    | 0%     | 0%                             | 0%      | 0%    | 0%     | 0%                             | 0%      | 15%   | 0%     |
| Project Trips                   | 0                                  | 0       | 0     | 0      | 21                                 | 0       | 0     | 0      | 0                              | 0       | 0     | 0      | 0                              | 0       | 12    | 0      |
| Project Trips (Total)           | 0                                  | 0       | 0     | 0      | 21                                 | 0       | 0     | 0      | 0                              | 0       | 0     | 0      | 0                              | 0       | 12    | 0      |
| 2027 Buildout Total             | 4                                  | 122     | 76    | 0      | 181                                | 48      | 1     | 0      | 18                             | 10      | 1     | 0      | 9                              | 7       | 84    | 0      |
| 2032 Buildout Total             | 5                                  | 145     | 90    | 0      | 204                                | 56      | 2     | 0      | 21                             | 12      | 2     | 0      | 10                             | 8       | 93    | 0      |

# **INTERSECTION VOLUME DEVELOPMENT**

## **Oakspring Rd and Stevens Mill Road AM PEAK HOUR**

| Description                     | Oakspring Rd<br><u>Northbound</u> |         |       |        | Stevens Mill Road<br><u>Eastbound</u> |         |       |        | Stevens Mill Road<br><u>Westbound</u> |         |       |        |
|---------------------------------|-----------------------------------|---------|-------|--------|---------------------------------------|---------|-------|--------|---------------------------------------|---------|-------|--------|
|                                 | Left                              | Through | Right | U-turn | Left                                  | Through | Right | U-turn | Left                                  | Through | Right | U-turn |
| Observed Volumes                | 195                               | 0       | 66    | 0      | 0                                     | 224     | 284   | 0      | 139                                   | 471     | 0     | 0      |
| Balanced Volumes                | 0                                 | 0       | 0     | 0      | 0                                     | 0       | 0     | 0      | 0                                     | 0       | 0     | 0      |
| 2020 Existing Traffic           | 195                               | 0       | 66    | 0      | 0                                     | 224     | 284   | 0      | 139                                   | 471     | 0     | 0      |
| Conflicting Peds                | 0                                 | 0       | 0     | 0      | 0                                     | 0       | 0     | 0      | 0                                     | 0       | 0     | 0      |
| Conflicting Bikes               |                                   |         | 1     |        |                                       |         | 0     |        |                                       |         | 0     |        |
| 2020 Existing PHF               | 0.90                              | 0.90    | 0.79  | 0.90   | 0.90                                  | 0.58    | 0.86  | 0.90   | 0.81                                  | 0.73    | 0.90  | 0.90   |
| 2027 Background PHF             | 0.90                              | 0.90    | 0.80  | 0.90   | 0.90                                  | 0.59    | 0.86  | 0.90   | 0.81                                  | 0.74    | 0.90  | 0.90   |
| 2027 Buildout PHF               | 0.90                              | 0.90    | 0.81  | 0.90   | 0.90                                  | 0.59    | 0.86  | 0.90   | 0.81                                  | 0.74    | 0.90  | 0.90   |
| Heavy Vehicle %                 | 5%                                | 2%      | 12%   | 2%     | 2%                                    | 4%      | 2%    | 2%     | 2%                                    | 2%      | 2%    | 2%     |
| Annual Growth Rate              | 3.5%                              | 3.5%    | 3.5%  | 3.5%   | 3.5%                                  | 3.5%    | 3.5%  | 3.5%   | 3.5%                                  | 3.5%    | 3.5%  | 3.5%   |
| 2027 Background Traffic (No AD) | 248                               | 0       | 84    | 0      | 0                                     | 285     | 361   | 0      | 177                                   | 599     | 0     | 0      |
| 2032 Background Traffic (No AD) | 295                               | 0       | 100   | 0      | 0                                     | 338     | 429   | 0      | 210                                   | 712     | 0     | 0      |
| Atrium Stallings                | 4                                 | 0       | 0     | 0      | 0                                     | 3       | 4     | 0      | 0                                     | 11      | 0     | 0      |
| Union Park Townhomes            | 0                                 | 0       | 0     | 0      | 0                                     | 2       | 2     | 0      | 0                                     | 1       | 0     | 0      |
| Willows at Stallings            | 2                                 | 0       | 0     | 0      | 0                                     | 4       | 4     | 0      | 0                                     | 1       | 0     | 0      |
| Harmony Hills                   | 5                                 | 0       | 0     | 0      | 0                                     | 1       | 1     | 0      | 0                                     | 12      | 0     | 0      |
| Oakspring Development           | 36                                | 0       | 12    | 0      | 0                                     | 0       | 11    | 0      | 5                                     | 0       | 0     | 0      |
| Approved Development Trips      | 47                                | 0       | 12    | 0      | 0                                     | 10      | 22    | 0      | 5                                     | 25      | 0     | 0      |
| 2027 Background Traffic         | 295                               | 0       | 96    | 0      | 0                                     | 295     | 383   | 0      | 182                                   | 624     | 0     | 0      |
| 2032 Background Traffic         | 342                               | 0       | 112   | 0      | 0                                     | 348     | 451   | 0      | 215                                   | 737     | 0     | 0      |
| Percent Inbound Assignment      | 0%                                | 0%      | 0%    | 0%     | 0%                                    | 0%      | 0%    | 0%     | 5%                                    | 0%      | 0%    | 0%     |
| Percent Outbound Assignment     | 0%                                | 0%      | 5%    | 0%     | 0%                                    | 0%      | 0%    | 0%     | 0%                                    | 0%      | 0%    | 0%     |
| Project Trips                   | 0                                 | 0       | 6     | 0      | 0                                     | 0       | 0     | 0      | 2                                     | 0       | 0     | 0      |
| Project Trips (Total)           | 0                                 | 0       | 6     | 0      | 0                                     | 0       | 0     | 0      | 2                                     | 0       | 0     | 0      |
| <b>2027 Buildout Total</b>      | 295                               | 0       | 102   | 0      | 0                                     | 295     | 383   | 0      | 184                                   | 624     | 0     | 0      |
| <b>2032 Buildout Total</b>      | 342                               | 0       | 118   | 0      | 0                                     | 348     | 451   | 0      | 217                                   | 737     | 0     | 0      |

## **PM PEAK HOUR**

| Description                     | Oakspring Rd<br><u>Northbound</u> |         |       |        | Stevens Mill Road<br><u>Eastbound</u> |         |       |        | Stevens Mill Road<br><u>Westbound</u> |         |       |        |
|---------------------------------|-----------------------------------|---------|-------|--------|---------------------------------------|---------|-------|--------|---------------------------------------|---------|-------|--------|
|                                 | Left                              | Through | Right | U-turn | Left                                  | Through | Right | U-turn | Left                                  | Through | Right | U-turn |
| Observed Volumes                | 115                               | 0       | 80    | 0      | 0                                     | 429     | 277   | 0      | 67                                    | 216     | 0     | 0      |
| Balanced Volumes                | 0                                 | 0       | 0     | 0      | 0                                     | 0       | 0     | 0      | 0                                     | 0       | 0     | 0      |
| 2020 Existing Traffic           | 115                               | 0       | 80    | 0      | 0                                     | 429     | 277   | 0      | 67                                    | 216     | 0     | 0      |
| Conflicting Peds                | 0                                 | 0       | 0     | 0      | 0                                     | 0       | 0     | 0      | 0                                     | 0       | 0     | 0      |
| Conflicting Bikes               |                                   |         | 0     |        |                                       |         | 0     |        |                                       |         | 0     |        |
| 2020 PHF                        | 0.78                              | 0.90    | 0.63  | 0.90   | 0.90                                  | 0.88    | 0.92  | 0.90   | 0.80                                  | 0.86    | 0.90  | 0.90   |
| 2027 PHF                        | 0.90                              | 0.90    | 0.90  | 0.90   | 0.90                                  | 0.90    | 0.90  | 0.90   | 0.90                                  | 0.90    | 0.90  | 0.90   |
| Heavy Vehicle %                 | 2%                                | 2%      | 2%    | 2%     | 2%                                    | 2%      | 6%    | 2%     | 6%                                    | 4%      | 2%    | 2%     |
| Annual Growth Rate              | 3.5%                              | 3.5%    | 3.5%  | 3.5%   | 3.5%                                  | 3.5%    | 3.5%  | 3.5%   | 3.5%                                  | 3.5%    | 3.5%  | 3.5%   |
| 2027 Background Traffic (No AD) | 146                               | 0       | 102   | 0      | 0                                     | 546     | 352   | 0      | 85                                    | 275     | 0     | 0      |
| 2032 Background Traffic (No AD) | 174                               | 0       | 121   | 0      | 0                                     | 648     | 419   | 0      | 101                                   | 326     | 0     | 0      |
| Atrium Stallings                | 4                                 | 0       | 0     | 0      | 0                                     | 10      | 6     | 0      | 0                                     | 7       | 0     | 0      |
| Union Park Townhomes            | 1                                 | 0       | 0     | 0      | 0                                     | 1       | 1     | 0      | 0                                     | 3       | 0     | 0      |
| Willows at Stallings            | 4                                 | 0       | 0     | 0      | 0                                     | 3       | 3     | 0      | 0                                     | 4       | 0     | 0      |
| Harmony Hills                   | 3                                 | 0       | 0     | 0      | 0                                     | 7       | 4     | 0      | 0                                     | 6       | 0     | 0      |
| Oakspring Development           | 19                                | 0       | 13    | 0      | 0                                     | 0       | 44    | 0      | 11                                    | 0       | 0     | 0      |
| Approved Development Trips      | 31                                | 0       | 13    | 0      | 0                                     | 21      | 58    | 0      | 11                                    | 20      | 0     | 0      |
| 2027 Background Traffic         | 177                               | 0       | 115   | 0      | 0                                     | 567     | 410   | 0      | 96                                    | 295     | 0     | 0      |
| 2032 Background Traffic         | 205                               | 0       | 134   | 0      | 0                                     | 669     | 477   | 0      | 112                                   | 346     | 0     | 0      |
| Percent Inbound Assignment      | 0%                                | 0%      | 0%    | 0%     | 0%                                    | 0%      | 0%    | 0%     | 5%                                    | 0%      | 0%    | 0%     |
| Percent Outbound Assignment     | 0%                                | 0%      | 5%    | 0%     | 0%                                    | 0%      | 0%    | 0%     | 0%                                    | 0%      | 0%    | 0%     |
| Project Trips                   | 0                                 | 0       | 4     | 0      | 0                                     | 0       | 0     | 0      | 7                                     | 0       | 0     | 0      |
| Project Trips (Total)           | 0                                 | 0       | 4     | 0      | 0                                     | 0       | 0     | 0      | 7                                     | 0       | 0     | 0      |
| <b>2027 Buildout Total</b>      | 177                               | 0       | 119   | 0      | 0                                     | 567     | 410   | 0      | 103                                   | 295     | 0     | 0      |
| <b>2032 Buildout Total</b>      | 205                               | 0       | 138   | 0      | 0                                     | 669     | 477   | 0      | 119                                   | 346     | 0     | 0      |

# INTERSECTION VOLUME DEVELOPMENT

## Stallings Road and Access #1 AM PEAK HOUR

| Description                     | Stallings Road<br><u>Northbound</u> |         |       |        | Stallings Road<br><u>Southbound</u> |         |       |        | Access #1<br><u>Eastbound</u> |         |       |        | Access #1<br><u>Westbound</u> |         |       |        |
|---------------------------------|-------------------------------------|---------|-------|--------|-------------------------------------|---------|-------|--------|-------------------------------|---------|-------|--------|-------------------------------|---------|-------|--------|
|                                 | Left                                | Through | Right | U-turn | Left                                | Through | Right | U-turn | Left                          | Through | Right | U-turn | Left                          | Through | Right | U-turn |
| 2020 Existing Traffic           | 0                                   | 227     | 0     | 0      | 0                                   | 395     | 0     | 0      | 0                             | 0       | 0     | 0      | 0                             | 0       | 0     | 0      |
| Conflicting Peds                | 0                                   |         | 0     | 0      | 0                                   |         | 0     | 0      | 0                             |         | 0     | 0      | 0                             |         | 0     | 0      |
| Conflicting Bikes               |                                     |         | 0     |        |                                     |         | 0     |        |                               |         | 0     |        |                               |         | 0     |        |
|                                 |                                     |         |       |        |                                     |         |       |        |                               |         |       |        |                               |         |       |        |
| 2020 Existing PHF               | 0.90                                | 0.79    | 0.90  | 0.90   | 0.90                                | 0.73    | 0.90  | 0.90   | 0.90                          | 0.90    | 0.90  | 0.90   | 0.90                          | 0.90    | 0.90  | 0.90   |
| 2027 Background PHF             | 0.90                                | 0.81    | 0.90  | 0.90   | 0.90                                | 0.75    | 0.90  | 0.90   | 0.90                          | 0.90    | 0.90  | 0.90   | 0.90                          | 0.90    | 0.90  | 0.90   |
| 2027 Buildout PHF               | 0.90                                | 0.81    | 0.90  | 0.90   | 0.90                                | 0.75    | 0.90  | 0.90   | 0.90                          | 0.90    | 0.90  | 0.90   | 0.90                          | 0.90    | 0.90  | 0.90   |
| Heavy Vehicle %                 | 2%                                  | 6%      | 2%    | 2%     | 2%                                  | 3%      | 2%    | 2%     | 2%                            | 2%      | 2%    | 2%     | 2%                            | 2%      | 2%    | 2%     |
|                                 |                                     |         |       |        |                                     |         |       |        |                               |         |       |        |                               |         |       |        |
| Annual Growth Rate              | 3.5%                                | 3.5%    | 3.5%  | 3.5%   | 3.5%                                | 3.5%    | 3.5%  | 3.5%   | 3.5%                          | 3.5%    | 3.5%  | 3.5%   | 3.5%                          | 3.5%    | 3.5%  | 3.5%   |
|                                 |                                     |         |       |        |                                     |         |       |        |                               |         |       |        |                               |         |       |        |
| 2027 Background Traffic (No AD) | 0                                   | 289     | 0     | 0      | 0                                   | 503     | 0     | 0      | 0                             | 0       | 0     | 0      | 0                             | 0       | 0     | 0      |
|                                 |                                     |         |       |        |                                     |         |       |        |                               |         |       |        |                               |         |       |        |
| 2032 Background Traffic (No AD) | 0                                   | 343     | 0     | 0      | 0                                   | 597     | 0     | 0      | 0                             | 0       | 0     | 0      | 0                             | 0       | 0     | 0      |
|                                 |                                     |         |       |        |                                     |         |       |        |                               |         |       |        |                               |         |       |        |
| Atrium Stallings                | 0                                   | 15      | 0     | 0      | 0                                   | 30      | 0     | 0      | 0                             | 0       | 0     | 0      | 0                             | 0       | 0     | 0      |
| Union Park Townhomes            | 0                                   | 12      | 0     | 0      | 0                                   | 3       | 0     | 0      | 0                             | 0       | 0     | 0      | 0                             | 0       | 0     | 0      |
| Willows at Stallings            | 0                                   | 19      | 0     | 0      | 0                                   | 55      | 0     | 0      | 0                             | 0       | 0     | 0      | 0                             | 0       | 0     | 0      |
| Harmony Hills                   | 0                                   | 3       | 0     | 0      | 0                                   | 1       | 0     | 0      | 0                             | 0       | 0     | 0      | 0                             | 0       | 0     | 0      |
| Oakspring Development           | 0                                   | 2       | 0     | 0      | 0                                   | 11      | 0     | 0      | 0                             | 0       | 0     | 0      | 0                             | 0       | 0     | 0      |
| Approved Development Trips      | 0                                   | 51      | 0     | 0      | 0                                   | 100     | 0     | 0      | 0                             | 0       | 0     | 0      | 0                             | 0       | 0     | 0      |
|                                 |                                     |         |       |        |                                     |         |       |        |                               |         |       |        |                               |         |       |        |
| 2027 Background Traffic         | 0                                   | 340     | 0     | 0      | 0                                   | 603     | 0     | 0      | 0                             | 0       | 0     | 0      | 0                             | 0       | 0     | 0      |
|                                 |                                     |         |       |        |                                     |         |       |        |                               |         |       |        |                               |         |       |        |
| 2032 Background Traffic         | 0                                   | 394     | 0     | 0      | 0                                   | 697     | 0     | 0      | 0                             | 0       | 0     | 0      | 0                             | 0       | 0     | 0      |
|                                 |                                     |         |       |        |                                     |         |       |        |                               |         |       |        |                               |         |       |        |
| Percent Inbound Assignment      | 20%                                 | 0%      | 42%   | 0%     | 12%                                 | 3%      | 10%   | 0%     | 0%                            | 0%      | 0%    | 0%     | 0%                            | 0%      | 0%    | 0%     |
| Percent Outbound Assignment     | 0%                                  | 3%      | 0%    | 0%     | 0%                                  | 0%      | 0%    | 0%     | 10%                           | 0%      | 20%   | 0%     | 42%                           | 0%      | 12%   | 0%     |
| Project Trips                   | 8                                   | 4       | 17    | 0      | 5                                   | 1       | 4     | 0      | 12                            | 0       | 24    | 0      | 51                            | 0       | 15    | 0      |
|                                 |                                     |         |       |        |                                     |         |       |        |                               |         |       |        |                               |         |       |        |
| Project Trips (Total)           | 8                                   | 4       | 17    | 0      | 5                                   | 1       | 4     | 0      | 12                            | 0       | 24    | 0      | 51                            | 0       | 15    | 0      |
|                                 |                                     |         |       |        |                                     |         |       |        |                               |         |       |        |                               |         |       |        |
| <b>2027 Buildout Total</b>      | 8                                   | 344     | 17    | 0      | 5                                   | 604     | 4     | 0      | 12                            | 0       | 24    | 0      | 51                            | 0       | 15    | 0      |
| <b>2032 Buildout Total</b>      | 8                                   | 398     | 17    | 0      | 5                                   | 698     | 4     | 0      | 12                            | 0       | 24    | 0      | 51                            | 0       | 15    | 0      |

## PM PEAK HOUR

| Description                     | Stallings Road<br><u>Northbound</u> |         |       |        | Stallings Road<br><u>Southbound</u> |         |       |        | Access #1<br><u>Eastbound</u> |         |       |        | Access #1<br><u>Westbound</u> |         |       |        |
|---------------------------------|-------------------------------------|---------|-------|--------|-------------------------------------|---------|-------|--------|-------------------------------|---------|-------|--------|-------------------------------|---------|-------|--------|
|                                 | Left                                | Through | Right | U-turn | Left                                | Through | Right | U-turn | Left                          | Through | Right | U-turn | Left                          | Through | Right | U-turn |
| 2020 Existing Traffic           | 0                                   | 386     | 0     | 0      | 0                                   | 291     | 0     | 0      | 0                             | 0       | 0     | 0      | 0                             | 0       | 0     | 0      |
| Conflicting Peds                | 0                                   |         | 0     | 0      | 0                                   |         | 0     | 0      | 0                             |         | 0     | 0      | 0                             |         | 0     | 0      |
| Conflicting Bikes               |                                     |         | 0     |        |                                     |         | 0     |        |                               |         | 0     |        |                               |         | 0     |        |
|                                 |                                     |         |       |        |                                     |         |       |        |                               |         |       |        |                               |         |       |        |
| 2020 PHF                        | 0.90                                | 0.85    | 0.90  | 0.90   | 0.90                                | 0.77    | 0.90  | 0.90   | 0.90                          | 0.90    | 0.90  | 0.90   | 0.90                          | 0.90    | 0.90  | 0.90   |
| 2027 PHF                        | 0.90                                | 0.90    | 0.90  | 0.90   | 0.90                                | 0.90    | 0.90  | 0.90   | 0.90                          | 0.90    | 0.90  | 0.90   | 0.90                          | 0.90    | 0.90  | 0.90   |
| Heavy Vehicle %                 | 2%                                  | 3%      | 2%    | 2%     | 2%                                  | 4%      | 2%    | 2%     | 2%                            | 2%      | 2%    | 2%     | 2%                            | 2%      | 2%    | 2%     |
|                                 |                                     |         |       |        |                                     |         |       |        |                               |         |       |        |                               |         |       |        |
| Annual Growth Rate              | 3.5%                                | 3.5%    | 3.5%  | 3.5%   | 3.5%                                | 3.5%    | 3.5%  | 3.5%   | 3.5%                          | 3.5%    | 3.5%  | 3.5%   | 3.5%                          | 3.5%    | 3.5%  | 3.5%   |
|                                 |                                     |         |       |        |                                     |         |       |        |                               |         |       |        |                               |         |       |        |
| 2027 Background Traffic (No AD) | 0                                   | 491     | 0     | 0      | 0                                   | 370     | 0     | 0      | 0                             | 0       | 0     | 0      | 0                             | 0       | 0     | 0      |
|                                 |                                     |         |       |        |                                     |         |       |        |                               |         |       |        |                               |         |       |        |
| 2032 Background Traffic (No AD) | 0                                   | 583     | 0     | 0      | 0                                   | 440     | 0     | 0      | 0                             | 0       | 0     | 0      | 0                             | 0       | 0     | 0      |
|                                 |                                     |         |       |        |                                     |         |       |        |                               |         |       |        |                               |         |       |        |
| Atrium Stallings                | 0                                   | 32      | 0     | 0      | 0                                   | 23      | 0     | 0      | 0                             | 0       | 0     | 0      | 0                             | 0       | 0     | 0      |
| Union Park Townhomes            | 0                                   | 6       | 0     | 0      | 0                                   | 11      | 0     | 0      | 0                             | 0       | 0     | 0      | 0                             | 0       | 0     | 0      |
| Willows at Stallings            | 0                                   | 58      | 0     | 0      | 0                                   | 36      | 0     | 0      | 0                             | 0       | 0     | 0      | 0                             | 0       | 0     | 0      |
| Harmony Hills                   | 0                                   | 2       | 0     | 0      | 0                                   | 1       | 0     | 0      | 0                             | 0       | 0     | 0      | 0                             | 0       | 0     | 0      |
| Oakspring Development           | 0                                   | 16      | 0     | 0      | 0                                   | 10      | 0     | 0      | 0                             | 0       | 0     | 0      | 0                             | 0       | 0     | 0      |
| Approved Development Trips      | 0                                   | 114     | 0     | 0      | 0                                   | 81      | 0     | 0      | 0                             | 0       | 0     | 0      | 0                             | 0       | 0     | 0      |
|                                 |                                     |         |       |        |                                     |         |       |        |                               |         |       |        |                               |         |       |        |
| 2027 Background Traffic         | 0                                   | 605     | 0     | 0      | 0                                   | 451     | 0     | 0      | 0                             | 0       | 0     | 0      | 0                             | 0       | 0     | 0      |
|                                 |                                     |         |       |        |                                     |         |       |        |                               |         |       |        |                               |         |       |        |
| 2032 Background Traffic         | 0                                   | 697     | 0     | 0      | 0                                   | 521     | 0     | 0      | 0                             | 0       | 0     | 0      | 0                             | 0       | 0     | 0      |
|                                 |                                     |         |       |        |                                     |         |       |        |                               |         |       |        |                               |         |       |        |
| Percent Inbound Assignment      | 20%                                 | 0%      | 42%   | 0%     | 12%                                 | 3%      | 10%   | 0%     | 0%                            | 0%      | 0%    | 0%     | 0%                            | 0%      | 0%    | 0%     |
| Percent Outbound Assignment     | 0%                                  | 3%      | 0%    | 0%     | 0%                                  | 0%      | 0%    | 0%     | 10%                           | 0%      | 20%   | 0%     | 42%                           | 0%      | 12%   | 0%     |
| Project Trips                   | 27                                  | 2       | 58    | 0      | 16                                  | 4       | 14    | 0      | 8                             | 0       | 16    | 0      | 34                            | 0       | 10    | 0      |
|                                 |                                     |         |       |        |                                     |         |       |        |                               |         |       |        |                               |         |       |        |
| Project Trips (Total)           | 27                                  | 2       | 58    | 0      | 16                                  | 4       | 14    | 0      | 8                             | 0       | 16    | 0      | 34                            | 0       | 10    | 0      |
|                                 |                                     |         |       |        |                                     |         |       |        |                               |         |       |        |                               |         |       |        |
| <b>2027 Buildout Total</b>      | 27                                  | 607     | 58    | 0      | 16                                  | 455     | 14    | 0      | 8                             | 0       | 16    | 0      | 34                            | 0       | 10    | 0      |
| <b>2032 Buildout Total</b>      | 27                                  | 699     | 58    | 0      | 16                                  | 525     | 14    | 0      | 8                             | 0       | 16    | 0      | 34                            | 0       | 10    | 0      |



## INTERSECTION VOLUME DEVELOPMENT

### Oakspring Road and Access #2 AM PEAK HOUR

| Description                     | Oakspring Road<br><u>Northbound</u> |         |       |        | Oakspring Road<br><u>Southbound</u> |         |       |        | Access #2<br><u>Eastbound</u> |         |       |        |
|---------------------------------|-------------------------------------|---------|-------|--------|-------------------------------------|---------|-------|--------|-------------------------------|---------|-------|--------|
|                                 | Left                                | Through | Right | U-turn | Left                                | Through | Right | U-turn | Left                          | Through | Right | U-turn |
| 2020 Existing Traffic           | 0                                   | 261     | 0     | 0      | 0                                   | 423     | 0     | 0      | 0                             | 0       | 0     | 0      |
| Conflicting Peds                | 0                                   |         | 0     | 0      | 0                                   |         | 0     | 0      | 0                             |         | 0     | 0      |
| Conflicting Bikes               |                                     |         | 0     |        |                                     |         | 0     |        |                               |         | 0     |        |
|                                 |                                     |         |       |        |                                     |         |       |        |                               |         |       |        |
| 2020 Existing PHF               | 0.90                                | 0.87    | 0.90  | 0.90   | 0.90                                | 0.84    | 0.90  | 0.90   | 0.90                          | 0.90    | 0.90  | 0.90   |
| 2027 Background PHF             | 0.90                                | 0.88    | 0.90  | 0.90   | 0.90                                | 0.85    | 0.90  | 0.90   | 0.90                          | 0.90    | 0.90  | 0.90   |
| 2027 Buildout PHF               | 0.90                                | 0.88    | 0.90  | 0.90   | 0.90                                | 0.85    | 0.90  | 0.90   | 0.90                          | 0.90    | 0.90  | 0.90   |
| Heavy Vehicle %                 | 2%                                  | 7%      | 2%    | 2%     | 2%                                  | 2%      | 2%    | 2%     | 2%                            | 2%      | 2%    | 2%     |
|                                 |                                     |         |       |        |                                     |         |       |        |                               |         |       |        |
| Annual Growth Rate              | 3.5%                                | 3.5%    | 3.5%  | 3.5%   | 3.5%                                | 3.5%    | 3.5%  | 3.5%   | 3.5%                          | 3.5%    | 3.5%  | 3.5%   |
|                                 |                                     |         |       |        |                                     |         |       |        |                               |         |       |        |
| 2027 Background Traffic (No AD) | 0                                   | 332     | 0     | 0      | 0                                   | 538     | 0     | 0      | 0                             | 0       | 0     | 0      |
|                                 |                                     |         |       |        |                                     |         |       |        |                               |         |       |        |
| 2032 Background Traffic (No AD) | 0                                   | 394     | 0     | 0      | 0                                   | 639     | 0     | 0      | 0                             | 0       | 0     | 0      |
|                                 |                                     |         |       |        |                                     |         |       |        |                               |         |       |        |
| Atrium Stallings                | 0                                   | 4       | 0     | 0      | 0                                   | 4       | 0     | 0      | 0                             | 0       | 0     | 0      |
| Union Park Townhomes            | 0                                   | 0       | 0     | 0      | 0                                   | 2       | 0     | 0      | 0                             | 0       | 0     | 0      |
| Willows at Stallings            | 0                                   | 2       | 0     | 0      | 0                                   | 4       | 0     | 0      | 0                             | 0       | 0     | 0      |
| Harmony Hills                   | 0                                   | 5       | 0     | 0      | 0                                   | 1       | 0     | 0      | 0                             | 0       | 0     | 0      |
| Oakspring Development           | 0                                   | 48      | 0     | 0      | 0                                   | 16      | 0     | 0      | 0                             | 0       | 0     | 0      |
| Approved Development Trips      | 0                                   | 59      | 0     | 0      | 0                                   | 27      | 0     | 0      | 0                             | 0       | 0     | 0      |
|                                 |                                     |         |       |        |                                     |         |       |        |                               |         |       |        |
| 2027 Background Traffic         | 0                                   | 391     | 0     | 0      | 0                                   | 565     | 0     | 0      | 0                             | 0       | 0     | 0      |
|                                 |                                     |         |       |        |                                     |         |       |        |                               |         |       |        |
| 2032 Background Traffic         | 0                                   | 453     | 0     | 0      | 0                                   | 666     | 0     | 0      | 0                             | 0       | 0     | 0      |
|                                 |                                     |         |       |        |                                     |         |       |        |                               |         |       |        |
| Percent Inbound Assignment      | 5%                                  | 0%      | 0%    | 0%     | 0%                                  | 0%      | 5%    | 0%     | 0%                            | 0%      | 0%    | 0%     |
| Percent Outbound Assignment     | 0%                                  | 0%      | 0%    | 0%     | 0%                                  | 0%      | 0%    | 0%     | 5%                            | 0%      | 5%    | 0%     |
| Project Trips                   | 3                                   | 0       | 0     | 0      | 0                                   | 0       | 2     | 0      | 6                             | 0       | 6     | 0      |
|                                 |                                     |         |       |        |                                     |         |       |        |                               |         |       |        |
| Project Trips (Total)           | 3                                   | 0       | 0     | 0      | 0                                   | 0       | 2     | 0      | 6                             | 0       | 6     | 0      |
|                                 |                                     |         |       |        |                                     |         |       |        |                               |         |       |        |
| <b>2027 Buildout Total</b>      | 3                                   | 391     | 0     | 0      | 0                                   | 565     | 2     | 0      | 6                             | 0       | 6     | 0      |
| <b>2032 Buildout Total</b>      | 3                                   | 453     | 0     | 0      | 0                                   | 666     | 2     | 0      | 6                             | 0       | 6     | 0      |

### PM PEAK HOUR

| Description                     | Oakspring Road<br><u>Northbound</u> |         |       |        | Oakspring Road<br><u>Southbound</u> |         |       |        | Access #2<br><u>Eastbound</u> |         |       |        |
|---------------------------------|-------------------------------------|---------|-------|--------|-------------------------------------|---------|-------|--------|-------------------------------|---------|-------|--------|
|                                 | Left                                | Through | Right | U-turn | Left                                | Through | Right | U-turn | Left                          | Through | Right | U-turn |
| 2020 Existing Traffic           | 0                                   | 195     | 0     | 0      | 0                                   | 344     | 0     | 0      | 0                             | 0       | 0     | 0      |
| Conflicting Peds                | 0                                   |         | 0     | 0      | 0                                   |         | 0     | 0      | 0                             |         | 0     | 0      |
| Conflicting Bikes               |                                     |         | 0     |        |                                     |         | 0     |        |                               |         | 0     |        |
|                                 |                                     |         |       |        |                                     |         |       |        |                               |         |       |        |
| 2020 PHF                        | 0.90                                | 0.72    | 0.90  | 0.90   | 0.90                                | 0.90    | 0.90  | 0.90   | 0.90                          | 0.90    | 0.90  | 0.90   |
| 2027 PHF                        | 0.90                                | 0.90    | 0.90  | 0.90   | 0.90                                | 0.90    | 0.90  | 0.90   | 0.90                          | 0.90    | 0.90  | 0.90   |
| Heavy Vehicle %                 | 2%                                  | 2%      | 2%    | 2%     | 2%                                  | 6%      | 2%    | 2%     | 2%                            | 2%      | 2%    | 2%     |
|                                 |                                     |         |       |        |                                     |         |       |        |                               |         |       |        |
| Annual Growth Rate              | 3.5%                                | 3.5%    | 3.5%  | 3.5%   | 3.5%                                | 3.5%    | 3.5%  | 3.5%   | 3.5%                          | 3.5%    | 3.5%  | 3.5%   |
|                                 |                                     |         |       |        |                                     |         |       |        |                               |         |       |        |
| 2027 Background Traffic (No AD) | 0                                   | 248     | 0     | 0      | 0                                   | 438     | 0     | 0      | 0                             | 0       | 0     | 0      |
|                                 |                                     |         |       |        |                                     |         |       |        |                               |         |       |        |
| 2032 Background Traffic (No AD) | 0                                   | 295     | 0     | 0      | 0                                   | 520     | 0     | 0      | 0                             | 0       | 0     | 0      |
|                                 |                                     |         |       |        |                                     |         |       |        |                               |         |       |        |
| Atrium Stallings                | 0                                   | 4       | 0     | 0      | 0                                   | 6       | 0     | 0      | 0                             | 0       | 0     | 0      |
| Union Park Townhomes            | 0                                   | 1       | 0     | 0      | 0                                   | 1       | 0     | 0      | 0                             | 0       | 0     | 0      |
| Willows at Stallings            | 0                                   | 4       | 0     | 0      | 0                                   | 3       | 0     | 0      | 0                             | 0       | 0     | 0      |
| Harmony Hills                   | 0                                   | 3       | 0     | 0      | 0                                   | 4       | 0     | 0      | 0                             | 0       | 0     | 0      |
| Oakspring Development           | 0                                   | 32      | 0     | 0      | 0                                   | 55      | 0     | 0      | 0                             | 0       | 0     | 0      |
| Approved Development Trips      | 0                                   | 44      | 0     | 0      | 0                                   | 69      | 0     | 0      | 0                             | 0       | 0     | 0      |
|                                 |                                     |         |       |        |                                     |         |       |        |                               |         |       |        |
| 2027 Background Traffic         | 0                                   | 292     | 0     | 0      | 0                                   | 507     | 0     | 0      | 0                             | 0       | 0     | 0      |
|                                 |                                     |         |       |        |                                     |         |       |        |                               |         |       |        |
| 2032 Background Traffic         | 0                                   | 339     | 0     | 0      | 0                                   | 589     | 0     | 0      | 0                             | 0       | 0     | 0      |
|                                 |                                     |         |       |        |                                     |         |       |        |                               |         |       |        |
| Percent Inbound Assignment      | 5%                                  | 0%      | 0%    | 0%     | 0%                                  | 0%      | 5%    | 0%     | 0%                            | 0%      | 0%    | 0%     |
| Percent Outbound Assignment     | 0%                                  | 0%      | 0%    | 0%     | 0%                                  | 0%      | 0%    | 0%     | 5%                            | 0%      | 5%    | 0%     |
| Project Trips                   | 7                                   | 0       | 0     | 0      | 0                                   | 0       | 7     | 0      | 4                             | 0       | 4     | 0      |
|                                 |                                     |         |       |        |                                     |         |       |        |                               |         |       |        |
| Project Trips (Total)           | 7                                   | 0       | 0     | 0      | 0                                   | 0       | 7     | 0      | 4                             | 0       | 4     | 0      |
|                                 |                                     |         |       |        |                                     |         |       |        |                               |         |       |        |
| <b>2027 Buildout Total</b>      | 7                                   | 292     | 0     | 0      | 0                                   | 507     | 7     | 0      | 4                             | 0       | 4     | 0      |
| <b>2032 Buildout Total</b>      | 7                                   | 339     | 0     | 0      | 0                                   | 589     | 7     | 0      | 4                             | 0       | 4     | 0      |

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### INTERSECTION VOLUME DEVELOPMENT

#### Sweet Birch Drive and Access #3 AM PEAK HOUR

| Description                     | Access #3         |         |       |        | Sweet Birch Drive |         |       |        | Sweet Birch Drive |         |       |        |
|---------------------------------|-------------------|---------|-------|--------|-------------------|---------|-------|--------|-------------------|---------|-------|--------|
|                                 | <u>Southbound</u> |         |       |        | <u>Eastbound</u>  |         |       |        | <u>Westbound</u>  |         |       |        |
|                                 | Left              | Through | Right | U-turn | Left              | Through | Right | U-turn | Left              | Through | Right | U-turn |
| 2020 Existing Traffic           | 0                 | 0       | 0     | 0      | 0                 | 19      | 0     | 0      | 0                 | 56      | 0     | 0      |
| Conflicting Peds                | 0                 |         | 0     | 0      | 0                 |         | 0     | 0      | 0                 |         | 0     | 0      |
| Conflicting Bikes               |                   |         | 0     |        |                   |         | 0     |        |                   |         | 0     |        |
|                                 |                   |         |       |        |                   |         |       |        |                   |         |       |        |
| 2020 Existing PHF               | 0.90              | 0.90    | 0.90  | 0.90   | 0.90              | 0.90    | 0.90  | 0.90   | 0.90              | 0.90    | 0.90  | 0.90   |
| 2027 Background PHF             | 0.90              | 0.90    | 0.90  | 0.90   | 0.90              | 0.90    | 0.90  | 0.90   | 0.90              | 0.90    | 0.90  | 0.90   |
| 2027 Buildout PHF               | 0.90              | 0.90    | 0.90  | 0.90   | 0.90              | 0.90    | 0.90  | 0.90   | 0.90              | 0.90    | 0.90  | 0.90   |
| Heavy Vehicle %                 | 2%                | 2%      | 2%    | 2%     | 2%                | 2%      | 2%    | 2%     | 2%                | 2%      | 2%    | 2%     |
|                                 |                   |         |       |        |                   |         |       |        |                   |         |       |        |
| Annual Growth Rate              | 3.5%              | 3.5%    | 3.5%  | 3.5%   | 3.5%              | 3.5%    | 3.5%  | 3.5%   | 3.5%              | 3.5%    | 3.5%  | 3.5%   |
|                                 |                   |         |       |        |                   |         |       |        |                   |         |       |        |
| 2027 Background Traffic (No AD) | 0                 | 0       | 0     | 0      | 0                 | 24      | 0     | 0      | 0                 | 71      | 0     | 0      |
|                                 |                   |         |       |        |                   |         |       |        |                   |         |       |        |
| 2032 Background Traffic (No AD) | 0                 | 0       | 0     | 0      | 0                 | 29      | 0     | 0      | 0                 | 85      | 0     | 0      |
|                                 |                   |         |       |        |                   |         |       |        |                   |         |       |        |
| Atrium Stallings                | 0                 | 0       | 0     | 0      | 0                 | 0       | 0     | 0      | 0                 | 0       | 0     | 0      |
| Union Park Townhomes            | 0                 | 0       | 0     | 0      | 0                 | 0       | 0     | 0      | 0                 | 0       | 0     | 0      |
| Willows at Stallings            | 0                 | 0       | 0     | 0      | 0                 | 0       | 0     | 0      | 0                 | 0       | 0     | 0      |
| Harmony Hills                   | 0                 | 0       | 0     | 0      | 0                 | 0       | 0     | 0      | 0                 | 0       | 0     | 0      |
| Oakspring Development           | 0                 | 0       | 0     | 0      | 0                 | 0       | 0     | 0      | 0                 | 0       | 0     | 0      |
| Approved Development Trips      | 0                 | 0       | 0     | 0      | 0                 | 0       | 0     | 0      | 0                 | 0       | 0     | 0      |
|                                 |                   |         |       |        |                   |         |       |        |                   |         |       |        |
| 2027 Background Traffic         | 0                 | 0       | 0     | 0      | 0                 | 24      | 0     | 0      | 0                 | 71      | 0     | 0      |
|                                 |                   |         |       |        |                   |         |       |        |                   |         |       |        |
| 2032 Background Traffic         | 0                 | 0       | 0     | 0      | 0                 | 29      | 0     | 0      | 0                 | 85      | 0     | 0      |
|                                 |                   |         |       |        |                   |         |       |        |                   |         |       |        |
| Percent Inbound Assignment      | 0%                | 0%      | 0%    | 0%     | 6%                | 0%      | 0%    | 0%     | 0%                | 0%      | 0%    | 0%     |
| Percent Outbound Assignment     | 0%                | 0%      | 6%    | 0%     | 0%                | 0%      | 0%    | 0%     | 0%                | 0%      | 0%    | 0%     |
| Project Trips                   | 0                 | 0       | 7     | 0      | 2                 | 0       | 0     | 0      | 0                 | 0       | 0     | 0      |
|                                 |                   |         |       |        |                   |         |       |        |                   |         |       |        |
| Project Trips (Total)           | 0                 | 0       | 7     | 0      | 2                 | 0       | 0     | 0      | 0                 | 0       | 0     | 0      |
|                                 |                   |         |       |        |                   |         |       |        |                   |         |       |        |
| 2027 Buildout Total             | 0                 | 0       | 7     | 0      | 2                 | 24      | 0     | 0      | 0                 | 71      | 0     | 0      |
| 2032 Buildout Total             | 0                 | 0       | 7     | 0      | 2                 | 29      | 0     | 0      | 0                 | 85      | 0     | 0      |

#### PM PEAK HOUR

| Description                     | Access #3         |         |       |        | Sweet Birch Drive |         |       |        | Sweet Birch Drive |         |       |        |
|---------------------------------|-------------------|---------|-------|--------|-------------------|---------|-------|--------|-------------------|---------|-------|--------|
|                                 | <u>Southbound</u> |         |       |        | <u>Eastbound</u>  |         |       |        | <u>Westbound</u>  |         |       |        |
|                                 | Left              | Through | Right | U-turn | Left              | Through | Right | U-turn | Left              | Through | Right | U-turn |
| 2020 Existing Traffic           | 0                 | 0       | 0     | 0      | 0                 | 64      | 0     | 0      | 0                 | 37      | 0     | 0      |
| Conflicting Peds                | 0                 |         | 0     | 0      | 0                 |         | 0     | 0      | 0                 |         | 0     | 0      |
| Conflicting Bikes               |                   |         | 0     |        |                   |         | 0     |        |                   |         | 0     |        |
|                                 |                   |         |       |        |                   |         |       |        |                   |         |       |        |
| 2020 PHF                        | 0.90              | 0.90    | 0.90  | 0.90   | 0.90              | 0.90    | 0.90  | 0.90   | 0.90              | 0.90    | 0.90  | 0.90   |
| 2027 PHF                        | 0.90              | 0.90    | 0.90  | 0.90   | 0.90              | 0.90    | 0.90  | 0.90   | 0.90              | 0.90    | 0.90  | 0.90   |
| Heavy Vehicle %                 | 2%                | 2%      | 2%    | 2%     | 2%                | 2%      | 2%    | 2%     | 2%                | 2%      | 2%    | 2%     |
|                                 |                   |         |       |        |                   |         |       |        |                   |         |       |        |
| Annual Growth Rate              | 3.5%              | 3.5%    | 3.5%  | 3.5%   | 3.5%              | 3.5%    | 3.5%  | 3.5%   | 3.5%              | 3.5%    | 3.5%  | 3.5%   |
|                                 |                   |         |       |        |                   |         |       |        |                   |         |       |        |
| 2027 Background Traffic (No AD) | 0                 | 0       | 0     | 0      | 0                 | 81      | 0     | 0      | 0                 | 47      | 0     | 0      |
|                                 |                   |         |       |        |                   |         |       |        |                   |         |       |        |
| 2032 Background Traffic (No AD) | 0                 | 0       | 0     | 0      | 0                 | 97      | 0     | 0      | 0                 | 56      | 0     | 0      |
|                                 |                   |         |       |        |                   |         |       |        |                   |         |       |        |
| Atrium Stallings                | 0                 | 0       | 0     | 0      | 0                 | 0       | 0     | 0      | 0                 | 0       | 0     | 0      |
| Union Park Townhomes            | 0                 | 0       | 0     | 0      | 0                 | 0       | 0     | 0      | 0                 | 0       | 0     | 0      |
| Willows at Stallings            | 0                 | 0       | 0     | 0      | 0                 | 0       | 0     | 0      | 0                 | 0       | 0     | 0      |
| Harmony Hills                   | 0                 | 0       | 0     | 0      | 0                 | 0       | 0     | 0      | 0                 | 0       | 0     | 0      |
| Oakspring Development           | 0                 | 0       | 0     | 0      | 0                 | 0       | 0     | 0      | 0                 | 0       | 0     | 0      |
| Approved Development Trips      | 0                 | 0       | 0     | 0      | 0                 | 0       | 0     | 0      | 0                 | 0       | 0     | 0      |
|                                 |                   |         |       |        |                   |         |       |        |                   |         |       |        |
| 2027 Background Traffic         | 0                 | 0       | 0     | 0      | 0                 | 81      | 0     | 0      | 0                 | 47      | 0     | 0      |
|                                 |                   |         |       |        |                   |         |       |        |                   |         |       |        |
| 2032 Background Traffic         | 0                 | 0       | 0     | 0      | 0                 | 97      | 0     | 0      | 0                 | 56      | 0     | 0      |
|                                 |                   |         |       |        |                   |         |       |        |                   |         |       |        |
| Percent Inbound Assignment      | 0%                | 0%      | 0%    | 0%     | 6%                | 0%      | 0%    | 0%     | 0%                | 0%      | 0%    | 0%     |
| Percent Outbound Assignment     | 0%                | 0%      | 6%    | 0%     | 0%                | 0%      | 0%    | 0%     | 0%                | 0%      | 0%    | 0%     |
| Project Trips                   | 0                 | 0       | 5     | 0      | 8                 | 0       | 0     | 0      | 0                 | 0       | 0     | 0      |
|                                 |                   |         |       |        |                   |         |       |        |                   |         |       |        |
| Project Trips (Total)           | 0                 | 0       | 5     | 0      | 8                 | 0       | 0     | 0      | 0                 | 0       | 0     | 0      |
|                                 |                   |         |       |        |                   |         |       |        |                   |         |       |        |
| 2027 Buildout Total             | 0                 | 0       | 5     | 0      | 8                 | 81      | 0     | 0      | 0                 | 47      | 0     | 0      |
| 2032 Buildout Total             | 0                 | 0       | 5     | 0      | 8                 | 97      | 0     | 0      | 0                 | 56      | 0     | 0      |



## Signal Plans





| SIGNAL<br>FACE | PHASE       |             |             |             |             |             |
|----------------|-------------|-------------|-------------|-------------|-------------|-------------|
|                | 0<br>2<br>5 | 1<br>2<br>6 | 2<br>3<br>1 | 3<br>4<br>0 | 4<br>5<br>7 | 5<br>6<br>2 |
| 12             | —           | —           | —           | —           | —           | —           |
| 21,22,23       | G           | G           | R           | R           | Y           | Y           |
| 24,25          | G           | G           | G           | G           | R           | Y           |
| 31,32          | R           | R           | R           | G           | R           | R           |
| 41,42,43       | R           | R           | R           | R           | G           | R           |
| 52             | —           | —           | —           | —           | —           | —           |
| 61,62,63,64    | R           | G           | G           | R           | R           | Y           |
| 65,66          | G           | G           | G           | R           | G           | Y           |

## All Heads L.E.D.




DETECTED MOVEMENT  
UNDETECTED MOVEMENT (OVERLAP)  
UNSIGNALIZED MOVEMENT  
PEDESTRIAN MOVEMENT

| INDUCTIVE LOOPS |              |                                   | DETECTOR PROGRAMMING |       |           |           | STRETCH LOOP    |                 | STRETCH LOOP  |  |
|-----------------|--------------|-----------------------------------|----------------------|-------|-----------|-----------|-----------------|-----------------|---------------|--|
| LOOP            | SIZE<br>(FT) | DISTANCE<br>FROM<br>STORM<br>(FT) | TURN<br>NO.          | PHASE | EXTENSION | FULL TIME | STRETCH<br>TIME | STRETCH<br>TIME | DELAY<br>TIME |  |
| 1B              | 6X40         | 0                                 | 2-4-2                | Y     | 1         | Y         | -               | -               | -             |  |
| 1D              | 6X40         | 0                                 | 2-4-2                | Y     | 1         | Y         | -               | -               | -             |  |
| 10              | 6X40         | 0                                 | 2-4-2                | Y     | 2         | Y         | -               | -               | 3             |  |
| 2A              | 6X6          | 70                                | 4                    | Y     | 2         | Y         | -               | -               | -             |  |
| 2B              | 6X6          | 70                                | 4                    | Y     | 2         | Y         | -               | -               | -             |  |
| 3A              | 6X40         | 0                                 | 2-4-2                | Y     | 3         | Y         | -               | -               | -             |  |
| 3B              | 6X40         | 0                                 | 2-4-2                | Y     | 3         | Y         | -               | -               | -             |  |
| 3C              | 6X40         | 0                                 | 2-4-2                | Y     | 3         | Y         | -               | -               | -             |  |
| 3D              | 6X40         | 0                                 | 2-4-2                | Y     | 4         | Y         | -               | -               | -             |  |
| 4C              | 6X40         | 0                                 | 2-4-2                | Y     | 4         | Y         | -               | -               | -             |  |
| 4E              | 6X40         | 0                                 | 2-4-2                | Y     | 4         | Y         | -               | -               | 10            |  |
| 5B              | 6X40         | 0                                 | 2-4-2                | Y     | 5         | Y         | -               | -               | -             |  |
| 5D              | 6X40         | 0                                 | 2-4-2                | Y     | 5         | Y         | -               | -               | -             |  |
| 6A              | 6X6          | 300                               | 6                    | Y     | 6         | Y         | -               | -               | 3             |  |
| 6B              | 6X6          | 300                               | 6                    | Y     | 6         | Y         | -               | -               | -             |  |
| 6C              | 6X6          | 300                               | 6                    | Y     | 6         | Y         | -               | -               | -             |  |
| 6D              | 6X6          | 300                               | 6                    | Y     | 6         | Y         | -               | -               | -             |  |
| 701             | 6X6          | +200                              | 4                    | Y     | -         | -         | -               | -               | -             |  |
| 802             | 6X6          | +200                              | 4                    | Y     | -         | -         | -               | -               | -             |  |
| 901             | 6X6          | +200                              | 4                    | Y     | -         | -         | -               | -               | -             |  |
| 902             | 6X6          | +200                              | 4                    | Y     | -         | -         | -               | -               | -             |  |

1. Refer to "Roadway Standard Drawings NDOT" dated January 2012 and "Standard Specifications for Roads and Structures" dated January 2012.
2. Do not program for late night flashing operation unless otherwise directed by the engineer.
3. The order of Phase 3 and Phase 4 may be reversed.
4. Set all detector units to presence mode.
5. Set all detector units to presence mode.
6. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.
7. Master loop system ID: 11093.
8. Controller Asset #: 0598.

5 Phase  
Fully Actuated  
US 74 (Indian Trail) CLS

| PROPOSED                                                                                                                               | EXISTING                                                                                                                               |
|----------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| <br>Traffic Signal Head<br>Modified Signal Sign       | <br>Traffic Signal Head<br>Modified Signal Sign       |
| <br>Pedestrian Signal Head<br>With Push Button & Sign | <br>Pedestrian Signal Head<br>With Push Button & Sign |
| <br>Signal Pole with Sidewalk Guy                     | <br>Signal Pole with Sidewalk Guy                     |
| <br>Inductive Loop Detector                           | <br>Inductive Loop Detector                           |
| <br>Controller & Cabinet                              | <br>Controller & Cabinet                              |
| <br>Junction Box                                      | <br>Junction Box                                      |
| <br>2-in-one Directional Control Sign                 | <br>2-in-one Directional Control Sign                 |
| <br>Metal Pole with Mastarm                           | <br>Metal Pole with Mastarm                           |
| <br>No Left Turn Sign (R3-2)                          | <br>No Left Turn Sign (R3-2)                          |
| <br>No Right Turn Sign (R3-1)                         | <br>No Right Turn Sign (R3-1)                         |
| <br>YIELD Sign (R1-2)                                 | <br>YIELD Sign (R1-2)                                 |
| <br>Street Name Sign                                  | <br>Street Name Sign                                  |

| FEATURE                 | 1   | 2   | 3   | 4   | 5   | 6          |
|-------------------------|-----|-----|-----|-----|-----|------------|
| Min Green 1 *           | 7   | 10  | 7   | 7   | 7   | 12         |
| Extension 1 *           | 2.0 | 3.0 | 2.0 | 2.0 | 2.0 | 6.0        |
| Min Green 1 *           | 25  | 120 | 30  | 30  | 25  | 120        |
| Yellow Clearance        | 3.0 | 3.9 | 3.8 | 4.3 | 3.0 | 4.4        |
| Red Clearance           | 3.2 | 1.3 | 2.5 | 2.0 | 3.2 | 1.0        |
| Red Reset               | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0        |
| Walk 1 *                | -   | -   | -   | -   | -   | -          |
| Don't Walk 1            | -   | -   | -   | -   | -   | -          |
| Seconds Per Actuation * | -   | -   | -   | -   | -   | 1.5        |
| Min Variable Init'd *   | -   | -   | -   | -   | -   | 34         |
| Time Before Reduction * | -   | -   | -   | -   | -   | 15         |
| Time To Reduce *        | -   | -   | -   | -   | -   | 30         |
| Minimum Gap             | -   | -   | -   | -   | -   | 3.0        |
| Recall mode             | -   | -   | -   | -   | -   | MIN RECALL |
| Variable Call Memory    | -   | -   | -   | -   | -   | YELLOW     |
| Dual Entry              | ON  | ON  | ON  | ON  | ON  | -          |
| Simultaneous Gap        | ON  | ON  | ON  | ON  | ON  | ON         |

## Signal Upgrade -Temporary Design 6 - Construction Phase V

**PLANS PREPARED BY :**



RUMMEL, KLEPPER & KAHL, LLP  
900 RIDGEFIELD DRIVE SUITE 350  
RALEIGH, NORTH CAROLINA 27609-3399  
NC LICENSE NO. F-0112 • (919) 878-9555

These values may be field adjusted. Do not adjust Min Green and Extension times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.

\* These values may be field adjusted. Do not adjust values above should not be lower than 4 seconds.

PHASING DIAGRAM

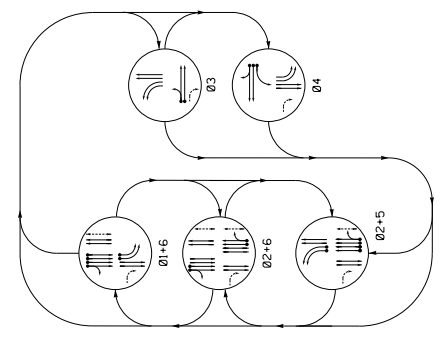
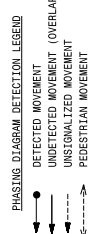


TABLE OF OPERATION

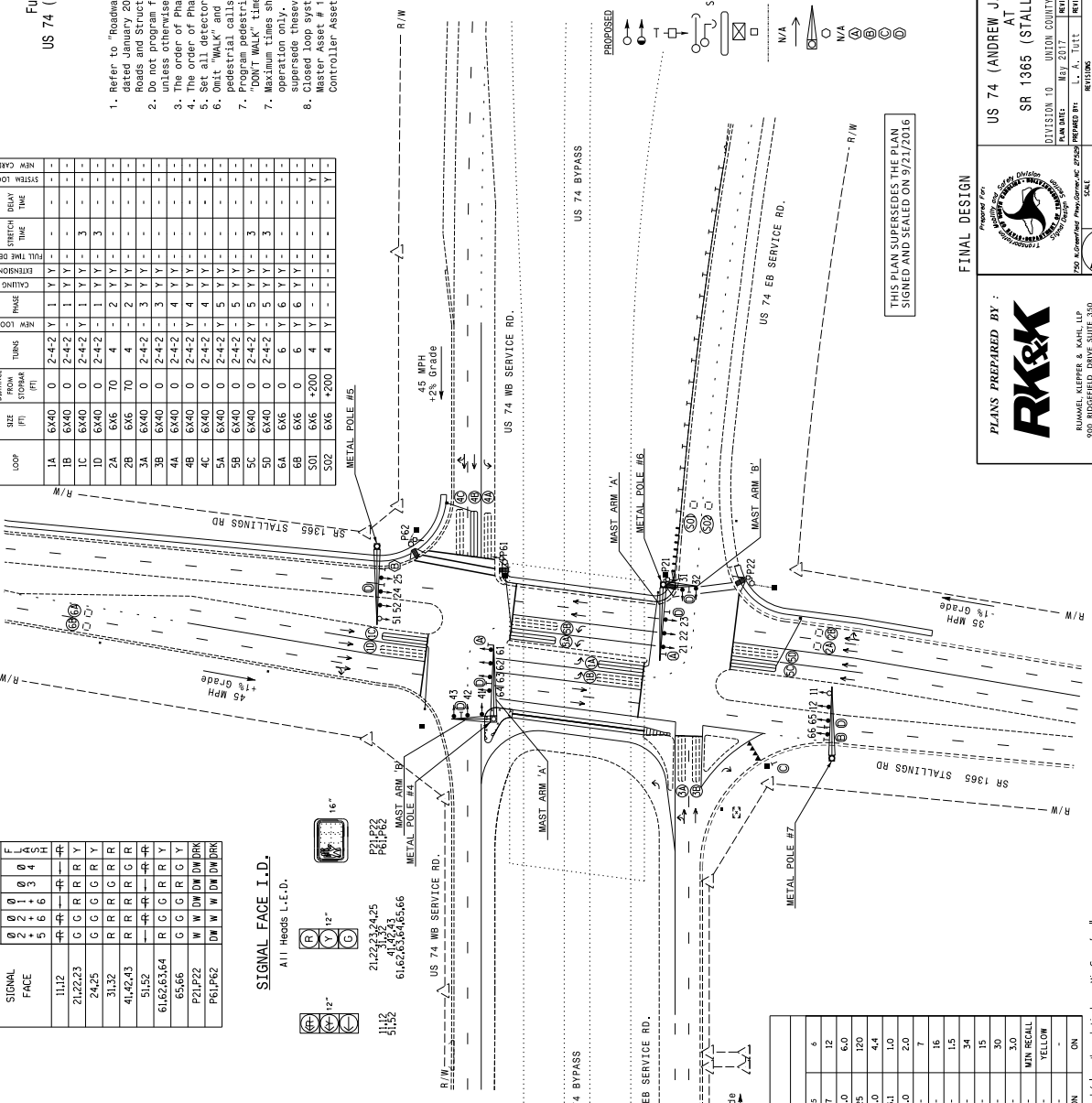
| SIGNAL FACE | PHASE |   |   |   |   |   |
|-------------|-------|---|---|---|---|---|
|             | 0     | 1 | 2 | 3 | 4 | 5 |
| 1112        | 0     | 0 | 0 | 0 | 0 | 0 |
| 2122,23     | 0     | 0 | 0 | 0 | 0 | 0 |
| 2425        | 0     | 0 | 0 | 0 | 0 | 0 |
| 3132        | 0     | 0 | 0 | 0 | 0 | 0 |
| 4142,43     | 0     | 0 | 0 | 0 | 0 | 0 |
| 5152        | 0     | 0 | 0 | 0 | 0 | 0 |
| 6162,63,64  | 0     | 0 | 0 | 0 | 0 | 0 |
| 6566        | 0     | 0 | 0 | 0 | 0 | 0 |
| P21P22      | 0     | 0 | 0 | 0 | 0 | 0 |
| P61P62      | 0     | 0 | 0 | 0 | 0 | 0 |

SIGNAL FACE I.D.  
All Heads L.E.D.



OASIS 2070 LOOP & DETECTOR INSTALLATION CHART

| INDUCTIVE LOOPS |           |                       |       | DETECTOR PROGRAMMING |          |           |                    |
|-----------------|-----------|-----------------------|-------|----------------------|----------|-----------|--------------------|
| LOOP            | SIZE (FT) | INSTR. FROM STOP (FT) | TURN  | PHASE                | CHANGING | EXTENSION | STRETCH DELAY TIME |
| 1A              | 6X40      | 0                     | 2-4-2 | Y                    | 1        | Y         | -                  |
| 1B              | 6X40      | 0                     | 2-4-2 | Y                    | 1        | Y         | -                  |
| 1C              | 6X40      | 0                     | 2-4-2 | Y                    | 1        | Y         | -                  |
| 1D              | 6X40      | 0                     | 2-4-2 | Y                    | 1        | Y         | -                  |
| 2A              | 6X6       | 70                    | 4     | 2                    | Y        | Y         | -                  |
| 2B              | 6X6       | 70                    | 4     | 2                    | Y        | Y         | -                  |
| 3A              | 6X40      | 0                     | 2-4-2 | 3                    | Y        | Y         | -                  |
| 3B              | 6X40      | 0                     | 2-4-2 | 3                    | Y        | Y         | -                  |
| 4A              | 6X40      | 0                     | 2-4-2 | 4                    | Y        | Y         | -                  |
| 4B              | 6X40      | 0                     | 2-4-2 | 4                    | Y        | Y         | -                  |
| 5A              | 6X40      | 0                     | 2-4-2 | 5                    | Y        | Y         | -                  |
| 5B              | 6X40      | 0                     | 2-4-2 | 5                    | Y        | Y         | -                  |
| 5C              | 6X40      | 0                     | 2-4-2 | 5                    | Y        | Y         | -                  |
| 5D              | 6X40      | 0                     | 2-4-2 | 5                    | Y        | Y         | -                  |
| 6A              | 6X6       | 0                     | 6     | Y                    | 6        | Y         | -                  |
| 6B              | 6X6       | 0                     | 6     | Y                    | 6        | Y         | -                  |
| S01             | 6X6       | +200                  | 4     | Y                    | -        | -         | -                  |
| S02             | 6X6       | +200                  | 4     | Y                    | -        | -         | -                  |



LEGEND

| EXISTING                            | PROPOSED                            |
|-------------------------------------|-------------------------------------|
| Traffic Signal Head                 | Traffic Signal Head                 |
| Modified Signal Head                | Modified Signal Head                |
| Sign                                | Sign                                |
| Pedestrian Signal Head              | Pedestrian Signal Head              |
| Signal Pole with Push Button & Sign | Signal Pole with Push Button & Sign |
| Signal Pole with Sidewalk Guy       | Signal Pole with Sidewalk Guy       |
| Inductive Loop Detector             | Inductive Loop Detector             |
| Controller & Cabinet                | Controller & Cabinet                |
| Junction Box                        | Junction Box                        |
| 2-in Underground Conduit            | 2-in Underground Conduit            |
| Right of Way                        | Right of Way                        |
| Directional Arrow                   | Directional Arrow                   |
| Metal Pole with Mastarm             | Metal Pole with Mastarm             |
| Signal Pedestal                     | Signal Pedestal                     |
| Wheelchair Ramp                     | Wheelchair Ramp                     |
| No Left Turn Sign (R3-2)            | No Left Turn Sign (R3-2)            |
| No Right Turn Sign (R3-1)           | No Right Turn Sign (R3-1)           |
| "YIELD" Sign (R1-2)                 | "YIELD" Sign (R1-2)                 |
| Street Name Sign                    | Street Name Sign                    |

THIS PLAN SUPERSEDES THE PLAN SIGNED AND SEALED ON 9/21/2016

PLANS PREPARED BY: **RK&K**

FINAL DESIGN

US 74 (ANDREW JACKSON HWY) AT SR 1365 (STALLINGS RD.)

STALLINGS

DIVISION 10 UNION COUNTY

PLANNED BY: MAY 2017 REVIEWED BY: C. B. HUBBARD

DESIGNED BY: L. A. TULL REVIEWED BY: C. B. HUBBARD

SCALE: 1"=50'

DATE: 5/17/2017

SIC: INVENTORY NO. 10-0599

OASIS 2070 TIMING CHART

| FEATURE                 | PHASE |     |     |     |     |            |
|-------------------------|-------|-----|-----|-----|-----|------------|
|                         | 1     | 2   | 3   | 4   | 5   | 6          |
| Min Green 1"            | 7     | 10  | 7   | 7   | 7   | 12         |
| Extension 1"            | 2.0   | 3.0 | 2.0 | 2.0 | 2.0 | 6.0        |
| Min Green 1"            | 25    | 120 | 30  | 30  | 25  | 120        |
| Yellow Clearance        | 3.0   | 3.9 | 3.8 | 4.3 | 3.0 | 4.4        |
| Red Clearance           | 3.3   | 1.3 | 2.6 | 2.4 | 3.1 | 1.0        |
| Red Reset               | 2.0   | 2.0 | 2.0 | 2.0 | 2.0 | 7          |
| Walk 1"                 | -     | 7   | -   | -   | -   | 15         |
| Don't Walk 1"           | -     | 12  | -   | -   | -   | 1.5        |
| Seconds Per Actuation * | -     | -   | -   | -   | -   | 34         |
| Min Variable Initial *  | -     | -   | -   | -   | -   | 15         |
| Time Before Reduction * | -     | -   | -   | -   | -   | 30         |
| Min Time To Red *       | -     | -   | -   | -   | -   | 3.0        |
| Min Recall              | -     | -   | -   | -   | -   | MIN RECALL |
| Yellow Recall           | -     | -   | -   | -   | -   | YELLOW     |
| Don't Entry             | -     | -   | -   | -   | -   | -          |
| Sanctuary Gap           | ON    | ON  | ON  | ON  | ON  | ON         |

\* These values may be field adjusted. Do not adjust Min Green and Extension times for phases 2 and 6, lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.





# Intersection Capacity Analysis





## 2020 Existing Conditions



Lanes, Volumes, Timings  
1: Stallings Rd & Stevens Mill Rd

Stallings Farms TIA  
2020 Existing AM

|                         |  |  |  |  |  |  |   |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations     |                                                                                   |  |                                                                                   |                                                                                   |  |  |  |  |                                                                                     |  |  |                                                                                     |
| Traffic Volume (vph)    | 23                                                                                | 52                                                                                | 44                                                                                | 181                                                                               | 156                                                                               | 278                                                                               | 22                                                                                  | 115                                                                                 | 90                                                                                  | 262                                                                                 | 170                                                                                 | 30                                                                                  |
| Future Volume (vph)     | 23                                                                                | 52                                                                                | 44                                                                                | 181                                                                               | 156                                                                               | 278                                                                               | 22                                                                                  | 115                                                                                 | 90                                                                                  | 262                                                                                 | 170                                                                                 | 30                                                                                  |
| Ideal Flow (vphpl)      | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)     | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 300                                                                               | 150                                                                                 |                                                                                     | 0                                                                                   | 150                                                                                 |                                                                                     | 0                                                                                   |
| Storage Lanes           | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 1                                                                                 | 1                                                                                   |                                                                                     | 0                                                                                   | 1                                                                                   |                                                                                     | 0                                                                                   |
| Taper Length (ft)       | 25                                                                                |                                                                                   |                                                                                   | 25                                                                                |                                                                                   |                                                                                   | 100                                                                                 |                                                                                     |                                                                                     | 100                                                                                 |                                                                                     |                                                                                     |
| Lane Util. Factor       | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Ped Bike Factor         |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Frt                     |                                                                                   | 0.939                                                                             |                                                                                   |                                                                                   |                                                                                   | 0.850                                                                             |                                                                                     | 0.929                                                                               |                                                                                     |                                                                                     | 0.981                                                                               |                                                                                     |
| Flt Protected           |                                                                                   | 0.991                                                                             |                                                                                   |                                                                                   | 0.974                                                                             |                                                                                   | 0.950                                                                               |                                                                                     |                                                                                     | 0.950                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (prot)       | 0                                                                                 | 1690                                                                              | 0                                                                                 | 0                                                                                 | 1814                                                                              | 1553                                                                              | 1770                                                                                | 1660                                                                                | 0                                                                                   | 1752                                                                                | 1810                                                                                | 0                                                                                   |
| Flt Permitted           |                                                                                   | 0.991                                                                             |                                                                                   |                                                                                   | 0.974                                                                             |                                                                                   | 0.950                                                                               |                                                                                     |                                                                                     | 0.950                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (perm)       | 0                                                                                 | 1690                                                                              | 0                                                                                 | 0                                                                                 | 1814                                                                              | 1553                                                                              | 1770                                                                                | 1660                                                                                | 0                                                                                   | 1752                                                                                | 1810                                                                                | 0                                                                                   |
| Link Speed (mph)        |                                                                                   | 45                                                                                |                                                                                   |                                                                                   | 45                                                                                |                                                                                   |                                                                                     | 45                                                                                  |                                                                                     |                                                                                     | 45                                                                                  |                                                                                     |
| Link Distance (ft)      |                                                                                   | 1672                                                                              |                                                                                   |                                                                                   | 940                                                                               |                                                                                   |                                                                                     | 1668                                                                                |                                                                                     |                                                                                     | 1502                                                                                |                                                                                     |
| Travel Time (s)         |                                                                                   | 25.3                                                                              |                                                                                   |                                                                                   | 14.2                                                                              |                                                                                   |                                                                                     | 25.3                                                                                |                                                                                     |                                                                                     | 22.8                                                                                |                                                                                     |
| Confl. Peds. (#/hr)     |                                                                                   |                                                                                   | 3                                                                                 | 3                                                                                 |                                                                                   |                                                                                   | 3                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 3                                                                                   |
| Peak Hour Factor        | 0.72                                                                              | 0.81                                                                              | 0.55                                                                              | 0.81                                                                              | 0.78                                                                              | 0.71                                                                              | 0.69                                                                                | 0.85                                                                                | 0.75                                                                                | 0.69                                                                                | 0.68                                                                                | 0.83                                                                                |
| Heavy Vehicles (%)      | 9%                                                                                | 2%                                                                                | 5%                                                                                | 2%                                                                                | 2%                                                                                | 4%                                                                                | 2%                                                                                  | 4%                                                                                  | 9%                                                                                  | 3%                                                                                  | 3%                                                                                  | 3%                                                                                  |
| Adj. Flow (vph)         | 32                                                                                | 64                                                                                | 80                                                                                | 223                                                                               | 200                                                                               | 392                                                                               | 32                                                                                  | 135                                                                                 | 120                                                                                 | 380                                                                                 | 250                                                                                 | 36                                                                                  |
| Shared Lane Traffic (%) |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)   | 0                                                                                 | 176                                                                               | 0                                                                                 | 0                                                                                 | 423                                                                               | 392                                                                               | 32                                                                                  | 255                                                                                 | 0                                                                                   | 380                                                                                 | 286                                                                                 | 0                                                                                   |
| Sign Control            |                                                                                   | Stop                                                                              |                                                                                   |                                                                                   | Stop                                                                              |                                                                                   |                                                                                     | Stop                                                                                |                                                                                     |                                                                                     | Stop                                                                                |                                                                                     |

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 62.5% ICU Level of Service B

Analysis Period (min) 15

# HCM Unsignalized Intersection Capacity Analysis

## 1: Stallings Rd & Stevens Mill Rd

Stallings Farms TIA

2020 Existing AM

|                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                                   |  |  |  |  |  |  |   |  |  |  |  |  |
| Movement                          | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |                                                                                   |  |                                                                                   |                                                                                   |  |  |  |  |                                                                                     |  |  |                                                                                     |
| Sign Control                      |                                                                                   | Stop                                                                              |                                                                                   |                                                                                   | Stop                                                                              |                                                                                   |                                                                                     | Stop                                                                                |                                                                                     |                                                                                     | Stop                                                                                |                                                                                     |
| Traffic Volume (vph)              | 23                                                                                | 52                                                                                | 44                                                                                | 181                                                                               | 156                                                                               | 278                                                                               | 22                                                                                  | 115                                                                                 | 90                                                                                  | 262                                                                                 | 170                                                                                 | 30                                                                                  |
| Future Volume (vph)               | 23                                                                                | 52                                                                                | 44                                                                                | 181                                                                               | 156                                                                               | 278                                                                               | 22                                                                                  | 115                                                                                 | 90                                                                                  | 262                                                                                 | 170                                                                                 | 30                                                                                  |
| Peak Hour Factor                  | 0.72                                                                              | 0.81                                                                              | 0.55                                                                              | 0.81                                                                              | 0.78                                                                              | 0.71                                                                              | 0.69                                                                                | 0.85                                                                                | 0.75                                                                                | 0.69                                                                                | 0.68                                                                                | 0.83                                                                                |
| Hourly flow rate (vph)            | 32                                                                                | 64                                                                                | 80                                                                                | 223                                                                               | 200                                                                               | 392                                                                               | 32                                                                                  | 135                                                                                 | 120                                                                                 | 380                                                                                 | 250                                                                                 | 36                                                                                  |
| Direction, Lane #                 | EB 1                                                                              | WB 1                                                                              | WB 2                                                                              | NB 1                                                                              | NB 2                                                                              | SB 1                                                                              | SB 2                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Total (vph)                | 176                                                                               | 423                                                                               | 392                                                                               | 32                                                                                | 255                                                                               | 380                                                                               | 286                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Left (vph)                 | 32                                                                                | 223                                                                               | 0                                                                                 | 32                                                                                | 0                                                                                 | 380                                                                               | 0                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Right (vph)                | 80                                                                                | 0                                                                                 | 392                                                                               | 0                                                                                 | 120                                                                               | 0                                                                                 | 36                                                                                  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Hadj (s)                          | -0.16                                                                             | 0.30                                                                              | -0.63                                                                             | 0.53                                                                              | -0.22                                                                             | 0.55                                                                              | -0.04                                                                               |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Departure Headway (s)             | 8.7                                                                               | 8.4                                                                               | 7.4                                                                               | 9.6                                                                               | 8.8                                                                               | 8.8                                                                               | 8.2                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Degree Utilization, x             | 0.43                                                                              | 0.98                                                                              | 0.81                                                                              | 0.08                                                                              | 0.62                                                                              | 0.93                                                                              | 0.65                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Capacity (veh/h)                  | 394                                                                               | 423                                                                               | 478                                                                               | 370                                                                               | 402                                                                               | 405                                                                               | 428                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Control Delay (s)                 | 18.0                                                                              | 67.2                                                                              | 33.5                                                                              | 12.2                                                                              | 24.0                                                                              | 57.1                                                                              | 24.0                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Approach Delay (s)                | 18.0                                                                              | 51.0                                                                              |                                                                                   | 22.7                                                                              |                                                                                   | 42.9                                                                              |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Approach LOS                      | C                                                                                 | F                                                                                 |                                                                                   | C                                                                                 |                                                                                   | E                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Delay                             |                                                                                   |                                                                                   | 41.0                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Level of Service                  |                                                                                   |                                                                                   | E                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 62.5%                                                                             | ICU Level of Service                                                              |                                                                                   |                                                                                   |                                                                                     | B                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |



Lanes, Volumes, Timings  
2: Stallings Rd & Sweet Birch Dr

Stallings Farms TIA  
2020 Existing AM

|                                   |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group                        | WBL                                                                               | WBR                                                                               | NBT                                                                               | NBR                                                                               | SBL                                                                               | SBT                                                                               |
| Lane Configurations               |  |                                                                                   |  |                                                                                   |                                                                                   |  |
| Traffic Volume (vph)              | 40                                                                                | 23                                                                                | 204                                                                               | 8                                                                                 | 14                                                                                | 381                                                                               |
| Future Volume (vph)               | 40                                                                                | 23                                                                                | 204                                                                               | 8                                                                                 | 14                                                                                | 381                                                                               |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Lane Util. Factor                 | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Frt                               | 0.950                                                                             |                                                                                   | 0.995                                                                             |                                                                                   |                                                                                   |                                                                                   |
| Flt Protected                     | 0.970                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.998                                                                             |
| Satd. Flow (prot)                 | 1717                                                                              | 0                                                                                 | 1786                                                                              | 0                                                                                 | 0                                                                                 | 1842                                                                              |
| Flt Permitted                     | 0.970                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.998                                                                             |
| Satd. Flow (perm)                 | 1717                                                                              | 0                                                                                 | 1786                                                                              | 0                                                                                 | 0                                                                                 | 1842                                                                              |
| Link Speed (mph)                  | 25                                                                                |                                                                                   | 45                                                                                |                                                                                   |                                                                                   | 45                                                                                |
| Link Distance (ft)                | 597                                                                               |                                                                                   | 2030                                                                              |                                                                                   |                                                                                   | 1668                                                                              |
| Travel Time (s)                   | 16.3                                                                              |                                                                                   | 30.8                                                                              |                                                                                   |                                                                                   | 25.3                                                                              |
| Peak Hour Factor                  | 0.90                                                                              | 0.90                                                                              | 0.79                                                                              | 0.79                                                                              | 0.54                                                                              | 0.54                                                                              |
| Heavy Vehicles (%)                | 2%                                                                                | 2%                                                                                | 6%                                                                                | 2%                                                                                | 2%                                                                                | 3%                                                                                |
| Adj. Flow (vph)                   | 44                                                                                | 26                                                                                | 258                                                                               | 10                                                                                | 26                                                                                | 706                                                                               |
| Shared Lane Traffic (%)           |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)             | 70                                                                                | 0                                                                                 | 268                                                                               | 0                                                                                 | 0                                                                                 | 732                                                                               |
| Sign Control                      | Stop                                                                              |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Area Type:                        | Other                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Control Type:                     | Unsignalized                                                                      |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization | 41.7%                                                                             |                                                                                   |                                                                                   | ICU Level of Service A                                                            |                                                                                   |                                                                                   |
| Analysis Period (min)             | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |

# HCM Unsignalized Intersection Capacity Analysis

## 2: Stallings Rd & Sweet Birch Dr

Stallings Farms TIA

2020 Existing AM

|                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|                                   |  |  |  |  |  |  |
| Movement                          | WBL                                                                               | WBR                                                                               | NBT                                                                               | NBR                                                                               | SBL                                                                               | SBT                                                                               |
| Lane Configurations               |  |                                                                                   |  |                                                                                   |                                                                                   |  |
| Traffic Volume (veh/h)            | 40                                                                                | 23                                                                                | 204                                                                               | 8                                                                                 | 14                                                                                | 381                                                                               |
| Future Volume (Veh/h)             | 40                                                                                | 23                                                                                | 204                                                                               | 8                                                                                 | 14                                                                                | 381                                                                               |
| Sign Control                      | Stop                                                                              |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              |
| Grade                             | 0%                                                                                |                                                                                   | 0%                                                                                |                                                                                   |                                                                                   | 0%                                                                                |
| Peak Hour Factor                  | 0.90                                                                              | 0.90                                                                              | 0.79                                                                              | 0.79                                                                              | 0.54                                                                              | 0.54                                                                              |
| Hourly flow rate (vph)            | 44                                                                                | 26                                                                                | 258                                                                               | 10                                                                                | 26                                                                                | 706                                                                               |
| Pedestrians                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Width (ft)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Walking Speed (ft/s)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Percent Blockage                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Right turn flare (veh)            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Median type                       |                                                                                   |                                                                                   | None                                                                              |                                                                                   |                                                                                   | None                                                                              |
| Median storage veh)               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Upstream signal (ft)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| pX, platoon unblocked             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC, conflicting volume            | 1021                                                                              | 263                                                                               |                                                                                   |                                                                                   | 268                                                                               |                                                                                   |
| vC1, stage 1 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC2, stage 2 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vCu, unblocked vol                | 1021                                                                              | 263                                                                               |                                                                                   |                                                                                   | 268                                                                               |                                                                                   |
| tC, single (s)                    | 6.4                                                                               | 6.2                                                                               |                                                                                   |                                                                                   | 4.1                                                                               |                                                                                   |
| tC, 2 stage (s)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| tF (s)                            | 3.5                                                                               | 3.3                                                                               |                                                                                   |                                                                                   | 2.2                                                                               |                                                                                   |
| p0 queue free %                   | 83                                                                                | 97                                                                                |                                                                                   |                                                                                   | 98                                                                                |                                                                                   |
| cM capacity (veh/h)               | 257                                                                               | 776                                                                               |                                                                                   |                                                                                   | 1296                                                                              |                                                                                   |
| Direction, Lane #                 | WB 1                                                                              | NB 1                                                                              | SB 1                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Volume Total                      | 70                                                                                | 268                                                                               | 732                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Volume Left                       | 44                                                                                | 0                                                                                 | 26                                                                                |                                                                                   |                                                                                   |                                                                                   |
| Volume Right                      | 26                                                                                | 10                                                                                | 0                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| cSH                               | 341                                                                               | 1700                                                                              | 1296                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Volume to Capacity                | 0.21                                                                              | 0.16                                                                              | 0.02                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Queue Length 95th (ft)            | 19                                                                                | 0                                                                                 | 2                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| Control Delay (s)                 | 18.2                                                                              | 0.0                                                                               | 0.5                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Lane LOS                          | C                                                                                 |                                                                                   | A                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| Approach Delay (s)                | 18.2                                                                              | 0.0                                                                               | 0.5                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Approach LOS                      | C                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Average Delay                     |                                                                                   | 1.6                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization |                                                                                   | 41.7%                                                                             |                                                                                   | ICU Level of Service                                                              |                                                                                   | A                                                                                 |
| Analysis Period (min)             |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |

Lanes, Volumes, Timings  
3: Nouvelle Dr & Sweet Birch Dr

Stallings Farms TIA  
2020 Existing AM

|                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|                                   |  |  |  |  |  |  |
| Lane Group                        | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | NBL                                                                               | NBR                                                                               |
| Lane Configurations               |  |                                                                                   |                                                                                   |  |  |                                                                                   |
| Traffic Volume (vph)              | 19                                                                                | 4                                                                                 | 4                                                                                 | 56                                                                                | 7                                                                                 | 4                                                                                 |
| Future Volume (vph)               | 19                                                                                | 4                                                                                 | 4                                                                                 | 56                                                                                | 7                                                                                 | 4                                                                                 |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Lane Util. Factor                 | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Frt                               | 0.978                                                                             |                                                                                   |                                                                                   |                                                                                   | 0.955                                                                             |                                                                                   |
| Flt Protected                     |                                                                                   |                                                                                   |                                                                                   | 0.997                                                                             | 0.968                                                                             |                                                                                   |
| Satd. Flow (prot)                 | 1822                                                                              | 0                                                                                 | 0                                                                                 | 1857                                                                              | 1722                                                                              | 0                                                                                 |
| Flt Permitted                     |                                                                                   |                                                                                   |                                                                                   | 0.997                                                                             | 0.968                                                                             |                                                                                   |
| Satd. Flow (perm)                 | 1822                                                                              | 0                                                                                 | 0                                                                                 | 1857                                                                              | 1722                                                                              | 0                                                                                 |
| Link Speed (mph)                  | 25                                                                                |                                                                                   |                                                                                   | 25                                                                                | 25                                                                                |                                                                                   |
| Link Distance (ft)                | 597                                                                               |                                                                                   |                                                                                   | 435                                                                               | 1037                                                                              |                                                                                   |
| Travel Time (s)                   | 16.3                                                                              |                                                                                   |                                                                                   | 11.9                                                                              | 28.3                                                                              |                                                                                   |
| Peak Hour Factor                  | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              |
| Adj. Flow (vph)                   | 21                                                                                | 4                                                                                 | 4                                                                                 | 62                                                                                | 8                                                                                 | 4                                                                                 |
| Shared Lane Traffic (%)           |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)             | 25                                                                                | 0                                                                                 | 0                                                                                 | 66                                                                                | 12                                                                                | 0                                                                                 |
| Sign Control                      | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              | Stop                                                                              |                                                                                   |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Area Type:                        | Other                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Control Type:                     | Unsignalized                                                                      |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization | 16.2%                                                                             |                                                                                   |                                                                                   | ICU Level of Service A                                                            |                                                                                   |                                                                                   |
| Analysis Period (min)             | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |

# HCM Unsignalized Intersection Capacity Analysis

## 3: Nouvelle Dr & Sweet Birch Dr

Stallings Farms TIA  
2020 Existing AM

|                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|                                   |  |  |  |  |  |  |
| Movement                          | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | NBL                                                                               | NBR                                                                               |
| Lane Configurations               |  |                                                                                   |                                                                                   |  |  |                                                                                   |
| Traffic Volume (veh/h)            | 19                                                                                | 4                                                                                 | 4                                                                                 | 56                                                                                | 7                                                                                 | 4                                                                                 |
| Future Volume (Veh/h)             | 19                                                                                | 4                                                                                 | 4                                                                                 | 56                                                                                | 7                                                                                 | 4                                                                                 |
| Sign Control                      | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              | Stop                                                                              |                                                                                   |
| Grade                             | 0%                                                                                |                                                                                   |                                                                                   | 0%                                                                                | 0%                                                                                |                                                                                   |
| Peak Hour Factor                  | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              |
| Hourly flow rate (vph)            | 21                                                                                | 4                                                                                 | 4                                                                                 | 62                                                                                | 8                                                                                 | 4                                                                                 |
| Pedestrians                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Width (ft)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Walking Speed (ft/s)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Percent Blockage                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Right turn flare (veh)            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Median type                       | None                                                                              |                                                                                   |                                                                                   | None                                                                              |                                                                                   |                                                                                   |
| Median storage veh                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Upstream signal (ft)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| pX, platoon unblocked             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC, conflicting volume            |                                                                                   |                                                                                   |                                                                                   | 25                                                                                | 93                                                                                | 23                                                                                |
| vC1, stage 1 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC2, stage 2 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vCu, unblocked vol                |                                                                                   |                                                                                   |                                                                                   | 25                                                                                | 93                                                                                | 23                                                                                |
| tC, single (s)                    |                                                                                   |                                                                                   |                                                                                   | 4.1                                                                               | 6.4                                                                               | 6.2                                                                               |
| tC, 2 stage (s)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| tF (s)                            |                                                                                   |                                                                                   |                                                                                   | 2.2                                                                               | 3.5                                                                               | 3.3                                                                               |
| p0 queue free %                   |                                                                                   |                                                                                   |                                                                                   | 100                                                                               | 99                                                                                | 100                                                                               |
| cM capacity (veh/h)               |                                                                                   |                                                                                   |                                                                                   | 1589                                                                              | 905                                                                               | 1054                                                                              |
| Direction, Lane #                 | EB 1                                                                              | WB 1                                                                              | NB 1                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Volume Total                      | 25                                                                                | 66                                                                                | 12                                                                                |                                                                                   |                                                                                   |                                                                                   |
| Volume Left                       | 0                                                                                 | 4                                                                                 | 8                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| Volume Right                      | 4                                                                                 | 0                                                                                 | 4                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| cSH                               | 1700                                                                              | 1589                                                                              | 949                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Volume to Capacity                | 0.01                                                                              | 0.00                                                                              | 0.01                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Queue Length 95th (ft)            | 0                                                                                 | 0                                                                                 | 1                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| Control Delay (s)                 | 0.0                                                                               | 0.5                                                                               | 8.8                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Lane LOS                          |                                                                                   | A                                                                                 | A                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| Approach Delay (s)                | 0.0                                                                               | 0.5                                                                               | 8.8                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Approach LOS                      |                                                                                   |                                                                                   | A                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Average Delay                     |                                                                                   |                                                                                   | 1.3                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 16.2%                                                                             | ICU Level of Service                                                              |                                                                                   | A                                                                                 |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |

Lanes, Volumes, Timings  
4: Stallings Rd & Monroe Expressway WB Ramp

Stallings Farms TIA

2020 Existing AM

|                         |  |      |      |                                                                                   |                                                                                   |      |                                                                                    |                                                                                     |      |      |                                                                                     |      |
|-------------------------|------------------------------------------------------------------------------------|------|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------|------|-------------------------------------------------------------------------------------|------|
| Lane Group              | EBL                                                                                | EBT  | EBR  | WBL                                                                               | WBT                                                                               | WBR  | NBL                                                                                | NBT                                                                                 | NBR  | SBL  | SBT                                                                                 | SBR  |
| Lane Configurations     |                                                                                    |      |      |  |  |      |  |  |      |      |  |      |
| Traffic Volume (vph)    | 0                                                                                  | 0    | 0    | 121                                                                               | 94                                                                                | 114  | 418                                                                                | 210                                                                                 | 0    | 0    | 252                                                                                 | 128  |
| Future Volume (vph)     | 0                                                                                  | 0    | 0    | 121                                                                               | 94                                                                                | 114  | 418                                                                                | 210                                                                                 | 0    | 0    | 252                                                                                 | 128  |
| Ideal Flow (vphpl)      | 1900                                                                               | 1900 | 1900 | 1900                                                                              | 1900                                                                              | 1900 | 1900                                                                               | 1900                                                                                | 1900 | 1900 | 1900                                                                                | 1900 |
| Storage Length (ft)     | 0                                                                                  |      | 0    | 325                                                                               |                                                                                   | 50   | 0                                                                                  |                                                                                     | 0    | 0    |                                                                                     | 200  |
| Storage Lanes           | 0                                                                                  |      | 0    | 1                                                                                 |                                                                                   | 0    | 2                                                                                  |                                                                                     | 0    | 0    |                                                                                     | 2    |
| Taper Length (ft)       | 25                                                                                 |      |      | 100                                                                               |                                                                                   |      | 25                                                                                 |                                                                                     |      | 25   |                                                                                     |      |
| Lane Util. Factor       | 1.00                                                                               | 1.00 | 1.00 | 1.00                                                                              | 0.95                                                                              | 0.95 | 0.97                                                                               | 0.95                                                                                | 1.00 | 1.00 | 0.86                                                                                | 0.86 |
| Frt                     |                                                                                    |      |      |                                                                                   | 0.919                                                                             |      |                                                                                    |                                                                                     |      |      | 0.953                                                                               |      |
| Flt Protected           |                                                                                    |      |      | 0.950                                                                             |                                                                                   |      | 0.950                                                                              |                                                                                     |      |      |                                                                                     |      |
| Satd. Flow (prot)       | 0                                                                                  | 0    | 0    | 1719                                                                              | 3204                                                                              | 0    | 3273                                                                               | 3343                                                                                | 0    | 0    | 6051                                                                                | 0    |
| Flt Permitted           |                                                                                    |      |      | 0.950                                                                             |                                                                                   |      | 0.950                                                                              |                                                                                     |      |      |                                                                                     |      |
| Satd. Flow (perm)       | 0                                                                                  | 0    | 0    | 1719                                                                              | 3204                                                                              | 0    | 3273                                                                               | 3343                                                                                | 0    | 0    | 6051                                                                                | 0    |
| Right Turn on Red       |                                                                                    |      | No   |                                                                                   |                                                                                   | No   |                                                                                    |                                                                                     | No   |      |                                                                                     | No   |
| Satd. Flow (RTOR)       |                                                                                    |      |      |                                                                                   |                                                                                   |      |                                                                                    |                                                                                     |      |      |                                                                                     |      |
| Link Speed (mph)        |                                                                                    | 30   |      |                                                                                   | 45                                                                                |      |                                                                                    | 35                                                                                  |      |      | 45                                                                                  |      |
| Link Distance (ft)      |                                                                                    | 1788 |      |                                                                                   | 2381                                                                              |      |                                                                                    | 198                                                                                 |      |      | 998                                                                                 |      |
| Travel Time (s)         |                                                                                    | 40.6 |      |                                                                                   | 36.1                                                                              |      |                                                                                    | 3.9                                                                                 |      |      | 15.1                                                                                |      |
| Peak Hour Factor        | 0.90                                                                               | 0.90 | 0.90 | 0.85                                                                              | 0.81                                                                              | 0.84 | 0.95                                                                               | 0.83                                                                                | 0.90 | 0.90 | 0.86                                                                                | 0.97 |
| Heavy Vehicles (%)      | 2%                                                                                 | 2%   | 2%   | 5%                                                                                | 3%                                                                                | 4%   | 7%                                                                                 | 8%                                                                                  | 2%   | 2%   | 2%                                                                                  | 5%   |
| Adj. Flow (vph)         | 0                                                                                  | 0    | 0    | 142                                                                               | 116                                                                               | 136  | 440                                                                                | 253                                                                                 | 0    | 0    | 293                                                                                 | 132  |
| Shared Lane Traffic (%) |                                                                                    |      |      |                                                                                   |                                                                                   |      |                                                                                    |                                                                                     |      |      |                                                                                     |      |
| Lane Group Flow (vph)   | 0                                                                                  | 0    | 0    | 142                                                                               | 252                                                                               | 0    | 440                                                                                | 253                                                                                 | 0    | 0    | 425                                                                                 | 0    |
| Turn Type               |                                                                                    |      |      | Split                                                                             | NA                                                                                |      | Prot                                                                               | NA                                                                                  |      |      | NA                                                                                  |      |
| Protected Phases        |                                                                                    |      |      | 4                                                                                 | 4                                                                                 |      | 3 5                                                                                | 2 3                                                                                 |      |      | 6                                                                                   |      |
| Permitted Phases        |                                                                                    |      |      |                                                                                   |                                                                                   |      |                                                                                    |                                                                                     |      |      |                                                                                     |      |
| Detector Phase          |                                                                                    |      |      | 4                                                                                 | 4                                                                                 |      | 3 5                                                                                | 2 3                                                                                 |      |      | 6                                                                                   |      |
| Switch Phase            |                                                                                    |      |      |                                                                                   |                                                                                   |      |                                                                                    |                                                                                     |      |      |                                                                                     |      |
| Minimum Initial (s)     |                                                                                    |      |      | 7.0                                                                               | 7.0                                                                               |      |                                                                                    |                                                                                     |      |      | 12.0                                                                                |      |
| Minimum Split (s)       |                                                                                    |      |      | 13.7                                                                              | 13.7                                                                              |      |                                                                                    |                                                                                     |      |      | 28.4                                                                                |      |
| Total Split (s)         |                                                                                    |      |      | 27.0                                                                              | 27.0                                                                              |      |                                                                                    |                                                                                     |      |      | 35.0                                                                                |      |
| Total Split (%)         |                                                                                    |      |      | 22.5%                                                                             | 22.5%                                                                             |      |                                                                                    |                                                                                     |      |      | 29.2%                                                                               |      |
| Maximum Green (s)       |                                                                                    |      |      | 20.3                                                                              | 20.3                                                                              |      |                                                                                    |                                                                                     |      |      | 29.6                                                                                |      |
| Yellow Time (s)         |                                                                                    |      |      | 4.3                                                                               | 4.3                                                                               |      |                                                                                    |                                                                                     |      |      | 4.4                                                                                 |      |
| All-Red Time (s)        |                                                                                    |      |      | 2.4                                                                               | 2.4                                                                               |      |                                                                                    |                                                                                     |      |      | 1.0                                                                                 |      |
| Lost Time Adjust (s)    |                                                                                    |      |      | -1.7                                                                              | -1.7                                                                              |      |                                                                                    |                                                                                     |      |      | -0.4                                                                                |      |
| Total Lost Time (s)     |                                                                                    |      |      | 5.0                                                                               | 5.0                                                                               |      |                                                                                    |                                                                                     |      |      | 5.0                                                                                 |      |
| Lead/Lag                |                                                                                    |      |      | Lag                                                                               | Lag                                                                               |      |                                                                                    |                                                                                     |      |      | Lag                                                                                 |      |
| Lead-Lag Optimize?      |                                                                                    |      |      | Yes                                                                               | Yes                                                                               |      |                                                                                    |                                                                                     |      |      | Yes                                                                                 |      |
| Vehicle Extension (s)   |                                                                                    |      |      | 3.0                                                                               | 3.0                                                                               |      |                                                                                    |                                                                                     |      |      | 3.0                                                                                 |      |
| Recall Mode             |                                                                                    |      |      | None                                                                              | None                                                                              |      |                                                                                    |                                                                                     |      |      | C-Min                                                                               |      |
| Walk Time (s)           |                                                                                    |      |      |                                                                                   |                                                                                   |      |                                                                                    |                                                                                     |      |      | 7.0                                                                                 |      |
| Flash Dont Walk (s)     |                                                                                    |      |      |                                                                                   |                                                                                   |      |                                                                                    |                                                                                     |      |      | 16.0                                                                                |      |
| Pedestrian Calls (#/hr) |                                                                                    |      |      |                                                                                   |                                                                                   |      |                                                                                    |                                                                                     |      |      | 0                                                                                   |      |
| Act Effct Green (s)     |                                                                                    |      |      | 18.3                                                                              | 18.3                                                                              |      | 42.3                                                                               | 71.6                                                                                |      |      | 36.6                                                                                |      |
| Actuated g/C Ratio      |                                                                                    |      |      | 0.15                                                                              | 0.15                                                                              |      | 0.35                                                                               | 0.60                                                                                |      |      | 0.30                                                                                |      |
| v/c Ratio               |                                                                                    |      |      | 0.54                                                                              | 0.52                                                                              |      | 0.38                                                                               | 0.13                                                                                |      |      | 0.23                                                                                |      |
| Control Delay           |                                                                                    |      |      | 53.8                                                                              | 49.7                                                                              |      | 15.7                                                                               | 0.8                                                                                 |      |      | 34.4                                                                                |      |
| Queue Delay             |                                                                                    |      |      | 0.0                                                                               | 0.0                                                                               |      | 1.0                                                                                | 0.1                                                                                 |      |      | 0.0                                                                                 |      |



Lanes, Volumes, Timings  
4: Stallings Rd & Monroe Expressway WB Ramp

Stallings Farms TIA  
2020 Existing AM

| Lane Group              | Ø1   | Ø2    | Ø3   | Ø5   |
|-------------------------|------|-------|------|------|
| Lane Configurations     |      |       |      |      |
| Traffic Volume (vph)    |      |       |      |      |
| Future Volume (vph)     |      |       |      |      |
| Ideal Flow (vphpl)      |      |       |      |      |
| Storage Length (ft)     |      |       |      |      |
| Storage Lanes           |      |       |      |      |
| Taper Length (ft)       |      |       |      |      |
| Lane Util. Factor       |      |       |      |      |
| Frt                     |      |       |      |      |
| Flt Protected           |      |       |      |      |
| Satd. Flow (prot)       |      |       |      |      |
| Flt Permitted           |      |       |      |      |
| Satd. Flow (perm)       |      |       |      |      |
| Right Turn on Red       |      |       |      |      |
| Satd. Flow (RTOR)       |      |       |      |      |
| Link Speed (mph)        |      |       |      |      |
| Link Distance (ft)      |      |       |      |      |
| Travel Time (s)         |      |       |      |      |
| Peak Hour Factor        |      |       |      |      |
| Heavy Vehicles (%)      |      |       |      |      |
| Adj. Flow (vph)         |      |       |      |      |
| Shared Lane Traffic (%) |      |       |      |      |
| Lane Group Flow (vph)   |      |       |      |      |
| Turn Type               |      |       |      |      |
| Protected Phases        | 1    | 2     | 3    | 5    |
| Permitted Phases        |      |       |      |      |
| Detector Phase          |      |       |      |      |
| Switch Phase            |      |       |      |      |
| Minimum Initial (s)     | 7.0  | 10.0  | 7.0  | 7.0  |
| Minimum Split (s)       | 13.3 | 24.2  | 13.4 | 13.2 |
| Total Split (s)         | 16.0 | 33.0  | 44.0 | 14.0 |
| Total Split (%)         | 13%  | 28%   | 37%  | 12%  |
| Maximum Green (s)       | 9.7  | 27.8  | 37.6 | 7.8  |
| Yellow Time (s)         | 3.0  | 3.9   | 3.8  | 3.0  |
| All-Red Time (s)        | 3.3  | 1.3   | 2.6  | 3.2  |
| Lost Time Adjust (s)    |      |       |      |      |
| Total Lost Time (s)     |      |       |      |      |
| Lead/Lag                | Lag  | Lead  | Lead | Lead |
| Lead-Lag Optimize?      | Yes  | Yes   | Yes  | Yes  |
| Vehicle Extension (s)   | 3.0  | 3.0   | 3.0  | 3.0  |
| Recall Mode             | None | C-Min | None | None |
| Walk Time (s)           |      | 7.0   |      |      |
| Flash Dont Walk (s)     |      | 12.0  |      |      |
| Pedestrian Calls (#/hr) |      | 0     |      |      |
| Act Effct Green (s)     |      |       |      |      |
| Actuated g/C Ratio      |      |       |      |      |
| v/c Ratio               |      |       |      |      |
| Control Delay           |      |       |      |      |
| Queue Delay             |      |       |      |      |

## 4: Stallings Rd &amp; Monroe Expressway WB Ramp

2020 Existing AM

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Total Delay             |                                                                                   |                                                                                   |                                                                                   | 53.8                                                                              | 49.7                                                                              |                                                                                   | 16.7                                                                               | 1.0                                                                                 |                                                                                     |                                                                                     | 34.4                                                                                |                                                                                     |
| LOS                     |                                                                                   |                                                                                   |                                                                                   | D                                                                                 | D                                                                                 |                                                                                   | B                                                                                  | A                                                                                   |                                                                                     |                                                                                     | C                                                                                   |                                                                                     |
| Approach Delay          |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 51.2                                                                              |                                                                                   |                                                                                    | 11.0                                                                                |                                                                                     |                                                                                     | 34.4                                                                                |                                                                                     |
| Approach LOS            |                                                                                   |                                                                                   |                                                                                   |                                                                                   | D                                                                                 |                                                                                   |                                                                                    | B                                                                                   |                                                                                     |                                                                                     | C                                                                                   |                                                                                     |
| Queue Length 50th (ft)  |                                                                                   |                                                                                   |                                                                                   | 104                                                                               | 96                                                                                |                                                                                   | 68                                                                                 | 2                                                                                   |                                                                                     |                                                                                     | 71                                                                                  |                                                                                     |
| Queue Length 95th (ft)  |                                                                                   |                                                                                   |                                                                                   | 149                                                                               | 115                                                                               |                                                                                   | 85                                                                                 | 3                                                                                   |                                                                                     |                                                                                     | 109                                                                                 |                                                                                     |
| Internal Link Dist (ft) |                                                                                   | 1708                                                                              |                                                                                   |                                                                                   | 2301                                                                              |                                                                                   |                                                                                    | 118                                                                                 |                                                                                     |                                                                                     | 918                                                                                 |                                                                                     |
| Turn Bay Length (ft)    |                                                                                   |                                                                                   |                                                                                   | 325                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Base Capacity (vph)     |                                                                                   |                                                                                   |                                                                                   | 324                                                                               | 604                                                                               |                                                                                   | 1309                                                                               | 2176                                                                                |                                                                                     |                                                                                     | 1953                                                                                |                                                                                     |
| Starvation Cap Reductn  |                                                                                   |                                                                                   |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 597                                                                                | 1121                                                                                |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Spillback Cap Reductn   |                                                                                   |                                                                                   |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                  | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Storage Cap Reductn     |                                                                                   |                                                                                   |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                  | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Reduced v/c Ratio       |                                                                                   |                                                                                   |                                                                                   | 0.44                                                                              | 0.42                                                                              |                                                                                   | 0.62                                                                               | 0.24                                                                                |                                                                                     |                                                                                     | 0.22                                                                                |                                                                                     |

## Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.72

Intersection Signal Delay: 28.0

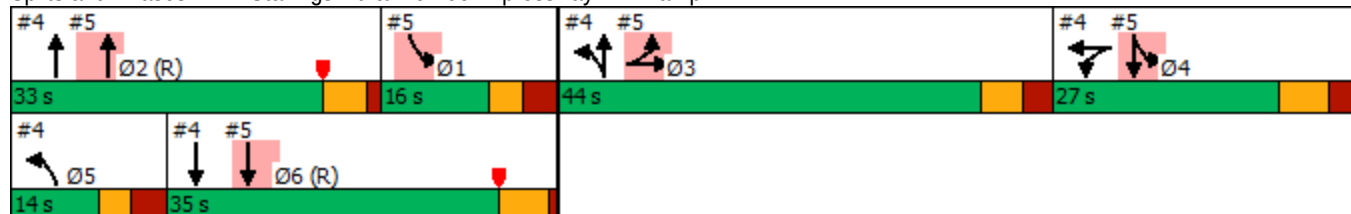
Intersection LOS: C

Intersection Capacity Utilization 42.8%

ICU Level of Service A

Analysis Period (min) 15

## Splits and Phases: 4: Stallings Rd &amp; Monroe Expressway WB Ramp



Lanes, Volumes, Timings  
4: Stallings Rd & Monroe Expressway WB Ramp

Stallings Farms TIA  
2020 Existing AM

| Lane Group              | Ø1 | Ø2 | Ø3 | Ø5 |
|-------------------------|----|----|----|----|
| Total Delay             |    |    |    |    |
| LOS                     |    |    |    |    |
| Approach Delay          |    |    |    |    |
| Approach LOS            |    |    |    |    |
| Queue Length 50th (ft)  |    |    |    |    |
| Queue Length 95th (ft)  |    |    |    |    |
| Internal Link Dist (ft) |    |    |    |    |
| Turn Bay Length (ft)    |    |    |    |    |
| Base Capacity (vph)     |    |    |    |    |
| Starvation Cap Reductn  |    |    |    |    |
| Spillback Cap Reductn   |    |    |    |    |
| Storage Cap Reductn     |    |    |    |    |
| Reduced v/c Ratio       |    |    |    |    |
| Intersection Summary    |    |    |    |    |

Lanes, Volumes, Timings  
5: Stallings Rd & Monroe Expressway EB Ramp

Stallings Farms TIA

2020 Existing AM

|                         |  |       |      |      |      |      |      |       |      |       |      |      |
|-------------------------|------------------------------------------------------------------------------------|-------|------|------|------|------|------|-------|------|-------|------|------|
| Lane Group              | EBL                                                                                | EBT   | EBR  | WBL  | WBT  | WBR  | NBL  | NBT   | NBR  | SBL   | SBT  | SBR  |
| Lane Configurations     |                                                                                    | ↕↕    |      |      |      |      |      | ↑↑↑   |      | ↕↕    | ↑↑   |      |
| Traffic Volume (vph)    | 152                                                                                | 82    | 261  | 0    | 0    | 0    | 0    | 476   | 39   | 100   | 273  | 0    |
| Future Volume (vph)     | 152                                                                                | 82    | 261  | 0    | 0    | 0    | 0    | 476   | 39   | 100   | 273  | 0    |
| Ideal Flow (vphpl)      | 1900                                                                               | 1900  | 1900 | 1900 | 1900 | 1900 | 1900 | 1900  | 1900 | 1900  | 1900 | 1900 |
| Storage Length (ft)     | 175                                                                                |       | 325  | 0    |      | 0    | 425  |       | 0    | 0     |      | 0    |
| Storage Lanes           | 0                                                                                  |       | 0    | 0    |      | 0    | 2    |       | 0    | 2     |      | 0    |
| Taper Length (ft)       | 100                                                                                |       |      | 25   |      |      | 100  |       |      | 25    |      |      |
| Lane Util. Factor       | 0.95                                                                               | 0.95  | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 0.86  | 0.86 | 0.97  | 0.95 | 1.00 |
| Frt                     |                                                                                    | 0.923 |      |      |      |      |      | 0.983 |      |       |      |      |
| Flt Protected           |                                                                                    | 0.985 |      |      |      |      |      |       |      | 0.950 |      |      |
| Satd. Flow (prot)       | 0                                                                                  | 3155  | 0    | 0    | 0    | 0    | 0    | 5967  | 0    | 3335  | 3505 | 0    |
| Flt Permitted           |                                                                                    | 0.985 |      |      |      |      |      |       |      | 0.950 |      |      |
| Satd. Flow (perm)       | 0                                                                                  | 3155  | 0    | 0    | 0    | 0    | 0    | 5967  | 0    | 3335  | 3505 | 0    |
| Right Turn on Red       |                                                                                    |       | No   |      |      | No   |      |       | No   |       |      | No   |
| Satd. Flow (RTOR)       |                                                                                    |       |      |      |      |      |      |       |      |       |      |      |
| Link Speed (mph)        |                                                                                    | 35    |      |      | 30   |      |      | 35    |      |       | 35   |      |
| Link Distance (ft)      |                                                                                    | 1776  |      |      | 891  |      |      | 1501  |      |       | 198  |      |
| Travel Time (s)         |                                                                                    | 34.6  |      |      | 20.3 |      |      | 29.2  |      |       | 3.9  |      |
| Peak Hour Factor        | 0.78                                                                               | 0.71  | 0.79 | 0.90 | 0.90 | 0.90 | 0.90 | 0.92  | 0.61 | 0.76  | 0.94 | 0.90 |
| Heavy Vehicles (%)      | 4%                                                                                 | 7%    | 3%   | 2%   | 2%   | 2%   | 2%   | 8%    | 5%   | 5%    | 3%   | 2%   |
| Adj. Flow (vph)         | 195                                                                                | 115   | 330  | 0    | 0    | 0    | 0    | 517   | 64   | 132   | 290  | 0    |
| Shared Lane Traffic (%) |                                                                                    |       |      |      |      |      |      |       |      |       |      |      |
| Lane Group Flow (vph)   | 0                                                                                  | 640   | 0    | 0    | 0    | 0    | 0    | 581   | 0    | 132   | 290  | 0    |
| Turn Type               | Split                                                                              | NA    |      |      |      |      |      | NA    |      | Prot  | NA   |      |
| Protected Phases        | 3                                                                                  | 3     |      |      |      |      |      | 2     |      | 1 4   | 4 6  |      |
| Permitted Phases        |                                                                                    |       |      |      |      |      |      |       |      |       |      |      |
| Detector Phase          | 3                                                                                  | 3     |      |      |      |      |      | 2     |      | 1 4   | 4 6  |      |
| Switch Phase            |                                                                                    |       |      |      |      |      |      |       |      |       |      |      |
| Minimum Initial (s)     | 7.0                                                                                | 7.0   |      |      |      |      |      | 10.0  |      |       |      |      |
| Minimum Split (s)       | 13.4                                                                               | 13.4  |      |      |      |      |      | 24.2  |      |       |      |      |
| Total Split (s)         | 44.0                                                                               | 44.0  |      |      |      |      |      | 33.0  |      |       |      |      |
| Total Split (%)         | 36.7%                                                                              | 36.7% |      |      |      |      |      | 27.5% |      |       |      |      |
| Maximum Green (s)       | 37.6                                                                               | 37.6  |      |      |      |      |      | 27.8  |      |       |      |      |
| Yellow Time (s)         | 3.8                                                                                | 3.8   |      |      |      |      |      | 3.9   |      |       |      |      |
| All-Red Time (s)        | 2.6                                                                                | 2.6   |      |      |      |      |      | 1.3   |      |       |      |      |
| Lost Time Adjust (s)    |                                                                                    | -1.4  |      |      |      |      |      | -0.2  |      |       |      |      |
| Total Lost Time (s)     |                                                                                    | 5.0   |      |      |      |      |      | 5.0   |      |       |      |      |
| Lead/Lag                | Lead                                                                               | Lead  |      |      |      |      |      | Lead  |      |       |      |      |
| Lead-Lag Optimize?      | Yes                                                                                | Yes   |      |      |      |      |      | Yes   |      |       |      |      |
| Vehicle Extension (s)   | 3.0                                                                                | 3.0   |      |      |      |      |      | 3.0   |      |       |      |      |
| Recall Mode             | None                                                                               | None  |      |      |      |      |      | C-Min |      |       |      |      |
| Walk Time (s)           |                                                                                    |       |      |      |      |      |      | 7.0   |      |       |      |      |
| Flash Dont Walk (s)     |                                                                                    |       |      |      |      |      |      | 12.0  |      |       |      |      |
| Pedestrian Calls (#/hr) |                                                                                    |       |      |      |      |      |      | 0     |      |       |      |      |
| Act Effct Green (s)     |                                                                                    | 33.9  |      |      |      |      |      | 38.1  |      | 25.4  | 51.5 |      |
| Actuated g/C Ratio      |                                                                                    | 0.28  |      |      |      |      |      | 0.32  |      | 0.21  | 0.43 |      |
| v/c Ratio               |                                                                                    | 0.72  |      |      |      |      |      | 0.31  |      | 0.19  | 0.19 |      |
| Control Delay           |                                                                                    | 43.1  |      |      |      |      |      | 33.5  |      | 11.4  | 2.0  |      |
| Queue Delay             |                                                                                    | 0.0   |      |      |      |      |      | 0.0   |      | 0.1   | 0.1  |      |

Lanes, Volumes, Timings  
5: Stallings Rd & Monroe Expressway EB Ramp

Stallings Farms TIA  
2020 Existing AM

| Lane Group              | Ø1   | Ø4   | Ø5   | Ø6    |
|-------------------------|------|------|------|-------|
| Lane Configurations     |      |      |      |       |
| Traffic Volume (vph)    |      |      |      |       |
| Future Volume (vph)     |      |      |      |       |
| Ideal Flow (vphpl)      |      |      |      |       |
| Storage Length (ft)     |      |      |      |       |
| Storage Lanes           |      |      |      |       |
| Taper Length (ft)       |      |      |      |       |
| Lane Util. Factor       |      |      |      |       |
| Frt                     |      |      |      |       |
| Flt Protected           |      |      |      |       |
| Satd. Flow (prot)       |      |      |      |       |
| Flt Permitted           |      |      |      |       |
| Satd. Flow (perm)       |      |      |      |       |
| Right Turn on Red       |      |      |      |       |
| Satd. Flow (RTOR)       |      |      |      |       |
| Link Speed (mph)        |      |      |      |       |
| Link Distance (ft)      |      |      |      |       |
| Travel Time (s)         |      |      |      |       |
| Peak Hour Factor        |      |      |      |       |
| Heavy Vehicles (%)      |      |      |      |       |
| Adj. Flow (vph)         |      |      |      |       |
| Shared Lane Traffic (%) |      |      |      |       |
| Lane Group Flow (vph)   |      |      |      |       |
| Turn Type               |      |      |      |       |
| Protected Phases        | 1    | 4    | 5    | 6     |
| Permitted Phases        |      |      |      |       |
| Detector Phase          |      |      |      |       |
| Switch Phase            |      |      |      |       |
| Minimum Initial (s)     | 7.0  | 7.0  | 7.0  | 12.0  |
| Minimum Split (s)       | 13.3 | 13.7 | 13.2 | 28.4  |
| Total Split (s)         | 16.0 | 27.0 | 14.0 | 35.0  |
| Total Split (%)         | 13%  | 23%  | 12%  | 29%   |
| Maximum Green (s)       | 9.7  | 20.3 | 7.8  | 29.6  |
| Yellow Time (s)         | 3.0  | 4.3  | 3.0  | 4.4   |
| All-Red Time (s)        | 3.3  | 2.4  | 3.2  | 1.0   |
| Lost Time Adjust (s)    |      |      |      |       |
| Total Lost Time (s)     |      |      |      |       |
| Lead/Lag                | Lag  | Lag  | Lead | Lag   |
| Lead-Lag Optimize?      | Yes  | Yes  | Yes  | Yes   |
| Vehicle Extension (s)   | 3.0  | 3.0  | 3.0  | 3.0   |
| Recall Mode             | None | None | None | C-Min |
| Walk Time (s)           |      |      |      | 7.0   |
| Flash Dont Walk (s)     |      |      |      | 16.0  |
| Pedestrian Calls (#/hr) |      |      |      | 0     |
| Act Effct Green (s)     |      |      |      |       |
| Actuated g/C Ratio      |      |      |      |       |
| v/c Ratio               |      |      |      |       |
| Control Delay           |      |      |      |       |
| Queue Delay             |      |      |      |       |

Lanes, Volumes, Timings  
5: Stallings Rd & Monroe Expressway EB Ramp

Stallings Farms TIA

2020 Existing AM

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Total Delay             |                                                                                   | 43.1                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 33.5                                                                                |                                                                                     | 11.6                                                                                | 2.1                                                                                 |                                                                                     |
| LOS                     |                                                                                   | D                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    | C                                                                                   |                                                                                     | B                                                                                   | A                                                                                   |                                                                                     |
| Approach Delay          |                                                                                   | 43.1                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 33.5                                                                                |                                                                                     |                                                                                     | 5.1                                                                                 |                                                                                     |
| Approach LOS            |                                                                                   | D                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    | C                                                                                   |                                                                                     |                                                                                     | A                                                                                   |                                                                                     |
| Queue Length 50th (ft)  |                                                                                   | 234                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 97                                                                                  |                                                                                     | 34                                                                                  | 4                                                                                   |                                                                                     |
| Queue Length 95th (ft)  |                                                                                   | 201                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 148                                                                                 |                                                                                     | 8                                                                                   | 5                                                                                   |                                                                                     |
| Internal Link Dist (ft) |                                                                                   | 1696                                                                              |                                                                                   |                                                                                   | 811                                                                               |                                                                                   |                                                                                    | 1421                                                                                |                                                                                     |                                                                                     | 118                                                                                 |                                                                                     |
| Turn Bay Length (ft)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Base Capacity (vph)     |                                                                                   | 1041                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 1935                                                                                |                                                                                     | 863                                                                                 | 1693                                                                                |                                                                                     |
| Starvation Cap Reductn  |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 0                                                                                   |                                                                                     | 246                                                                                 | 580                                                                                 |                                                                                     |
| Spillback Cap Reductn   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     |
| Storage Cap Reductn     |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     |
| Reduced v/c Ratio       |                                                                                   | 0.61                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 0.30                                                                                |                                                                                     | 0.21                                                                                | 0.26                                                                                |                                                                                     |

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.72

Intersection Signal Delay: 29.9

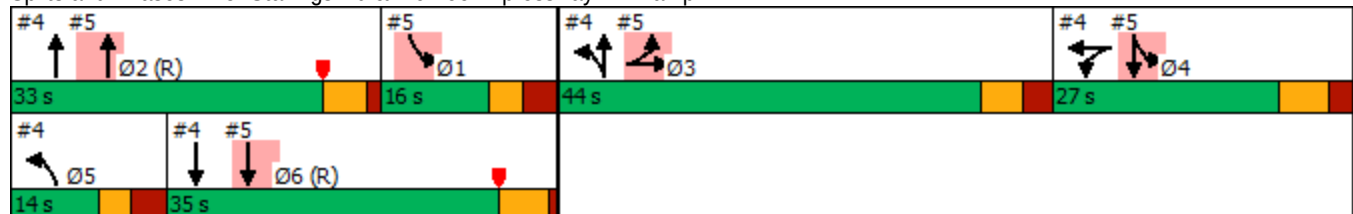
Intersection LOS: C

Intersection Capacity Utilization 42.8%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 5: Stallings Rd & Monroe Expressway EB Ramp





Lanes, Volumes, Timings  
5: Stallings Rd & Monroe Expressway EB Ramp

Stallings Farms TIA  
2020 Existing AM

| Lane Group              | Ø1 | Ø4 | Ø5 | Ø6 |
|-------------------------|----|----|----|----|
| Total Delay             |    |    |    |    |
| LOS                     |    |    |    |    |
| Approach Delay          |    |    |    |    |
| Approach LOS            |    |    |    |    |
| Queue Length 50th (ft)  |    |    |    |    |
| Queue Length 95th (ft)  |    |    |    |    |
| Internal Link Dist (ft) |    |    |    |    |
| Turn Bay Length (ft)    |    |    |    |    |
| Base Capacity (vph)     |    |    |    |    |
| Starvation Cap Reductn  |    |    |    |    |
| Spillback Cap Reductn   |    |    |    |    |
| Storage Cap Reductn     |    |    |    |    |
| Reduced v/c Ratio       |    |    |    |    |
| Intersection Summary    |    |    |    |    |

Lanes, Volumes, Timings  
6: Stallings Rd & Matthews-Indian Trail Rd

Stallings Farms TIA  
2020 Existing AM

|                         |  |  |  |  |  |  |   |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations     |  |  |                                                                                   |  |  |                                                                                   |  |  |                                                                                     |  |  |                                                                                     |
| Traffic Volume (vph)    | 12                                                                                | 16                                                                                | 50                                                                                | 61                                                                                | 39                                                                                | 65                                                                                | 97                                                                                  | 436                                                                                 | 38                                                                                  | 85                                                                                  | 412                                                                                 | 36                                                                                  |
| Future Volume (vph)     | 12                                                                                | 16                                                                                | 50                                                                                | 61                                                                                | 39                                                                                | 65                                                                                | 97                                                                                  | 436                                                                                 | 38                                                                                  | 85                                                                                  | 412                                                                                 | 36                                                                                  |
| Ideal Flow (vphpl)      | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)     | 140                                                                               |                                                                                   | 0                                                                                 | 140                                                                               |                                                                                   | 0                                                                                 | 120                                                                                 |                                                                                     | 0                                                                                   | 110                                                                                 |                                                                                     | 0                                                                                   |
| Storage Lanes           | 1                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                   |                                                                                     | 0                                                                                   | 1                                                                                   |                                                                                     | 0                                                                                   |
| Taper Length (ft)       | 100                                                                               |                                                                                   |                                                                                   | 75                                                                                |                                                                                   |                                                                                   | 100                                                                                 |                                                                                     |                                                                                     | 100                                                                                 |                                                                                     |                                                                                     |
| Lane Util. Factor       | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Frt                     |                                                                                   | 0.889                                                                             |                                                                                   |                                                                                   | 0.907                                                                             |                                                                                   |                                                                                     | 0.986                                                                               |                                                                                     |                                                                                     | 0.987                                                                               |                                                                                     |
| Flt Protected           | 0.950                                                                             |                                                                                   |                                                                                   | 0.950                                                                             |                                                                                   |                                                                                   | 0.950                                                                               |                                                                                     |                                                                                     | 0.950                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (prot)       | 1543                                                                              | 1609                                                                              | 0                                                                                 | 1467                                                                              | 1643                                                                              | 0                                                                                 | 1770                                                                                | 1735                                                                                | 0                                                                                   | 1770                                                                                | 1822                                                                                | 0                                                                                   |
| Flt Permitted           | 0.663                                                                             |                                                                                   |                                                                                   | 0.697                                                                             |                                                                                   |                                                                                   | 0.431                                                                               |                                                                                     |                                                                                     | 0.394                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (perm)       | 1077                                                                              | 1609                                                                              | 0                                                                                 | 1077                                                                              | 1643                                                                              | 0                                                                                 | 803                                                                                 | 1735                                                                                | 0                                                                                   | 734                                                                                 | 1822                                                                                | 0                                                                                   |
| Right Turn on Red       |                                                                                   |                                                                                   | No                                                                                |                                                                                   |                                                                                   | No                                                                                |                                                                                     |                                                                                     | No                                                                                  |                                                                                     |                                                                                     | No                                                                                  |
| Satd. Flow (RTOR)       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Link Speed (mph)        |                                                                                   | 45                                                                                |                                                                                   |                                                                                   | 35                                                                                |                                                                                   |                                                                                     | 35                                                                                  |                                                                                     |                                                                                     | 35                                                                                  |                                                                                     |
| Link Distance (ft)      |                                                                                   | 2002                                                                              |                                                                                   |                                                                                   | 586                                                                               |                                                                                   |                                                                                     | 1248                                                                                |                                                                                     |                                                                                     | 1501                                                                                |                                                                                     |
| Travel Time (s)         |                                                                                   | 30.3                                                                              |                                                                                   |                                                                                   | 11.4                                                                              |                                                                                   |                                                                                     | 24.3                                                                                |                                                                                     |                                                                                     | 29.2                                                                                |                                                                                     |
| Peak Hour Factor        | 0.75                                                                              | 0.67                                                                              | 0.74                                                                              | 0.61                                                                              | 0.70                                                                              | 0.71                                                                              | 0.81                                                                                | 0.87                                                                                | 0.73                                                                                | 0.85                                                                                | 0.89                                                                                | 0.82                                                                                |
| Heavy Vehicles (%)      | 17%                                                                               | 2%                                                                                | 6%                                                                                | 23%                                                                               | 8%                                                                                | 3%                                                                                | 2%                                                                                  | 8%                                                                                  | 8%                                                                                  | 2%                                                                                  | 3%                                                                                  | 2%                                                                                  |
| Adj. Flow (vph)         | 16                                                                                | 24                                                                                | 68                                                                                | 100                                                                               | 56                                                                                | 92                                                                                | 120                                                                                 | 501                                                                                 | 52                                                                                  | 100                                                                                 | 463                                                                                 | 44                                                                                  |
| Shared Lane Traffic (%) |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)   | 16                                                                                | 92                                                                                | 0                                                                                 | 100                                                                               | 148                                                                               | 0                                                                                 | 120                                                                                 | 553                                                                                 | 0                                                                                   | 100                                                                                 | 507                                                                                 | 0                                                                                   |
| Turn Type               | Perm                                                                              | NA                                                                                |                                                                                   | Perm                                                                              | NA                                                                                |                                                                                   | Perm                                                                                | NA                                                                                  |                                                                                     | Perm                                                                                | NA                                                                                  |                                                                                     |
| Protected Phases        |                                                                                   | 4                                                                                 |                                                                                   |                                                                                   | 8                                                                                 |                                                                                   |                                                                                     | 2                                                                                   |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     |
| Permitted Phases        | 4                                                                                 |                                                                                   |                                                                                   | 8                                                                                 |                                                                                   |                                                                                   | 2                                                                                   |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     |                                                                                     |
| Detector Phase          | 4                                                                                 | 4                                                                                 |                                                                                   | 8                                                                                 | 8                                                                                 |                                                                                   | 2                                                                                   | 2                                                                                   |                                                                                     | 6                                                                                   | 6                                                                                   |                                                                                     |
| Switch Phase            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)     | 7.0                                                                               | 7.0                                                                               |                                                                                   | 7.0                                                                               | 7.0                                                                               |                                                                                   | 10.0                                                                                | 10.0                                                                                |                                                                                     | 10.0                                                                                | 10.0                                                                                |                                                                                     |
| Minimum Split (s)       | 12.3                                                                              | 12.3                                                                              |                                                                                   | 12.7                                                                              | 12.7                                                                              |                                                                                   | 34.4                                                                                | 34.4                                                                                |                                                                                     | 15.3                                                                                | 15.3                                                                                |                                                                                     |
| Total Split (s)         | 20.0                                                                              | 20.0                                                                              |                                                                                   | 20.0                                                                              | 20.0                                                                              |                                                                                   | 40.0                                                                                | 40.0                                                                                |                                                                                     | 40.0                                                                                | 40.0                                                                                |                                                                                     |
| Total Split (%)         | 33.3%                                                                             | 33.3%                                                                             |                                                                                   | 33.3%                                                                             | 33.3%                                                                             |                                                                                   | 66.7%                                                                               | 66.7%                                                                               |                                                                                     | 66.7%                                                                               | 66.7%                                                                               |                                                                                     |
| Maximum Green (s)       | 14.7                                                                              | 14.7                                                                              |                                                                                   | 14.3                                                                              | 14.3                                                                              |                                                                                   | 34.6                                                                                | 34.6                                                                                |                                                                                     | 34.7                                                                                | 34.7                                                                                |                                                                                     |
| Yellow Time (s)         | 3.6                                                                               | 3.6                                                                               |                                                                                   | 4.0                                                                               | 4.0                                                                               |                                                                                   | 3.8                                                                                 | 3.8                                                                                 |                                                                                     | 3.6                                                                                 | 3.6                                                                                 |                                                                                     |
| All-Red Time (s)        | 1.7                                                                               | 1.7                                                                               |                                                                                   | 1.7                                                                               | 1.7                                                                               |                                                                                   | 1.6                                                                                 | 1.6                                                                                 |                                                                                     | 1.7                                                                                 | 1.7                                                                                 |                                                                                     |
| Lost Time Adjust (s)    | -0.3                                                                              | -0.3                                                                              |                                                                                   | -0.7                                                                              | -0.7                                                                              |                                                                                   | -0.4                                                                                | -0.4                                                                                |                                                                                     | -0.3                                                                                | -0.3                                                                                |                                                                                     |
| Total Lost Time (s)     | 5.0                                                                               | 5.0                                                                               |                                                                                   | 5.0                                                                               | 5.0                                                                               |                                                                                   | 5.0                                                                                 | 5.0                                                                                 |                                                                                     | 5.0                                                                                 | 5.0                                                                                 |                                                                                     |
| Lead/Lag                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lead-Lag Optimize?      |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Vehicle Extension (s)   | 2.0                                                                               | 2.0                                                                               |                                                                                   | 2.0                                                                               | 2.0                                                                               |                                                                                   | 3.0                                                                                 | 3.0                                                                                 |                                                                                     | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |
| Recall Mode             | None                                                                              | None                                                                              |                                                                                   | None                                                                              | None                                                                              |                                                                                   | Min                                                                                 | Min                                                                                 |                                                                                     | Min                                                                                 | Min                                                                                 |                                                                                     |
| Walk Time (s)           |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 7.0                                                                                 | 7.0                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Flash Dont Walk (s)     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 22.0                                                                                | 22.0                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Pedestrian Calls (#/hr) |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Act Effct Green (s)     | 9.7                                                                               | 9.7                                                                               |                                                                                   | 9.8                                                                               | 9.8                                                                               |                                                                                   | 22.8                                                                                | 22.8                                                                                |                                                                                     | 22.8                                                                                | 22.8                                                                                |                                                                                     |
| Actuated g/C Ratio      | 0.25                                                                              | 0.25                                                                              |                                                                                   | 0.25                                                                              | 0.25                                                                              |                                                                                   | 0.59                                                                                | 0.59                                                                                |                                                                                     | 0.59                                                                                | 0.59                                                                                |                                                                                     |
| v/c Ratio               | 0.06                                                                              | 0.23                                                                              |                                                                                   | 0.37                                                                              | 0.35                                                                              |                                                                                   | 0.25                                                                                | 0.54                                                                                |                                                                                     | 0.23                                                                                | 0.47                                                                                |                                                                                     |
| Control Delay           | 14.0                                                                              | 14.9                                                                              |                                                                                   | 18.2                                                                              | 16.4                                                                              |                                                                                   | 8.1                                                                                 | 9.7                                                                                 |                                                                                     | 7.9                                                                                 | 8.6                                                                                 |                                                                                     |
| Queue Delay             | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                                 | 0.0                                                                                 |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |

Lanes, Volumes, Timings  
6: Stallings Rd & Matthews-Indian Trail Rd

Stallings Farms TIA  
2020 Existing AM

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Total Delay             | 14.0                                                                              | 14.9                                                                              |                                                                                   | 18.2                                                                              | 16.4                                                                              |                                                                                   | 8.1                                                                                | 9.7                                                                                 |                                                                                     | 7.9                                                                                 | 8.6                                                                                 |                                                                                     |
| LOS                     | B                                                                                 | B                                                                                 |                                                                                   | B                                                                                 | B                                                                                 |                                                                                   | A                                                                                  | A                                                                                   |                                                                                     | A                                                                                   | A                                                                                   |                                                                                     |
| Approach Delay          |                                                                                   | 14.8                                                                              |                                                                                   |                                                                                   | 17.1                                                                              |                                                                                   |                                                                                    | 9.4                                                                                 |                                                                                     |                                                                                     | 8.5                                                                                 |                                                                                     |
| Approach LOS            |                                                                                   | B                                                                                 |                                                                                   |                                                                                   | B                                                                                 |                                                                                   |                                                                                    | A                                                                                   |                                                                                     |                                                                                     | A                                                                                   |                                                                                     |
| Queue Length 50th (ft)  | 2                                                                                 | 14                                                                                |                                                                                   | 16                                                                                | 24                                                                                |                                                                                   | 12                                                                                 | 71                                                                                  |                                                                                     | 10                                                                                  | 61                                                                                  |                                                                                     |
| Queue Length 95th (ft)  | 13                                                                                | 39                                                                                |                                                                                   | 39                                                                                | 59                                                                                |                                                                                   | 39                                                                                 | 176                                                                                 |                                                                                     | 36                                                                                  | 157                                                                                 |                                                                                     |
| Internal Link Dist (ft) |                                                                                   | 1922                                                                              |                                                                                   |                                                                                   | 506                                                                               |                                                                                   |                                                                                    | 1168                                                                                |                                                                                     |                                                                                     | 1421                                                                                |                                                                                     |
| Turn Bay Length (ft)    | 140                                                                               |                                                                                   |                                                                                   | 140                                                                               |                                                                                   |                                                                                   | 120                                                                                |                                                                                     |                                                                                     | 110                                                                                 |                                                                                     |                                                                                     |
| Base Capacity (vph)     | 439                                                                               | 656                                                                               |                                                                                   | 439                                                                               | 670                                                                               |                                                                                   | 715                                                                                | 1546                                                                                |                                                                                     | 654                                                                                 | 1624                                                                                |                                                                                     |
| Starvation Cap Reductn  | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                  | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     |
| Spillback Cap Reductn   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                  | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     |
| Storage Cap Reductn     | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                  | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     |
| Reduced v/c Ratio       | 0.04                                                                              | 0.14                                                                              |                                                                                   | 0.23                                                                              | 0.22                                                                              |                                                                                   | 0.17                                                                               | 0.36                                                                                |                                                                                     | 0.15                                                                                | 0.31                                                                                |                                                                                     |

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 38.7

Natural Cycle: 50

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.54

Intersection Signal Delay: 10.6

Intersection LOS: B

Intersection Capacity Utilization 56.1%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 6: Stallings Rd & Matthews-Indian Trail Rd

|                                                                                        |                                                                                          |
|----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
|  Ø2 |  Ø4 |
| 40 s                                                                                   | 20 s                                                                                     |
|  Ø6 |  Ø8 |
| 40 s                                                                                   | 20 s                                                                                     |

Lanes, Volumes, Timings  
7: Mt. Harmony Church Rd & Stevens Mill Rd

Stallings Farms TIA  
2020 Existing AM

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations     |                                                                                   |  |                                                                                   |  |  |                                                                                   |                                                                                    |  |                                                                                     |  |  |                                                                                     |
| Traffic Volume (vph)    | 6                                                                                 | 4                                                                                 | 4                                                                                 | 40                                                                                | 7                                                                                 | 238                                                                               | 6                                                                                  | 94                                                                                  | 44                                                                                  | 119                                                                                 | 64                                                                                  | 16                                                                                  |
| Future Volume (vph)     | 6                                                                                 | 4                                                                                 | 4                                                                                 | 40                                                                                | 7                                                                                 | 238                                                                               | 6                                                                                  | 94                                                                                  | 44                                                                                  | 119                                                                                 | 64                                                                                  | 16                                                                                  |
| Ideal Flow (vphpl)      | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                               | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)     | 0                                                                                 |                                                                                   | 0                                                                                 | 125                                                                               |                                                                                   | 0                                                                                 | 0                                                                                  |                                                                                     | 0                                                                                   | 150                                                                                 |                                                                                     | 0                                                                                   |
| Storage Lanes           | 0                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                  |                                                                                     | 0                                                                                   | 1                                                                                   |                                                                                     | 0                                                                                   |
| Taper Length (ft)       | 25                                                                                |                                                                                   |                                                                                   | 125                                                                               |                                                                                   |                                                                                   | 25                                                                                 |                                                                                     |                                                                                     | 100                                                                                 |                                                                                     |                                                                                     |
| Lane Util. Factor       | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                               | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Frt                     |                                                                                   | 0.955                                                                             |                                                                                   |                                                                                   | 0.857                                                                             |                                                                                   |                                                                                    | 0.958                                                                               |                                                                                     |                                                                                     | 0.965                                                                               |                                                                                     |
| Flt Protected           |                                                                                   | 0.984                                                                             |                                                                                   | 0.950                                                                             |                                                                                   |                                                                                   |                                                                                    | 0.997                                                                               |                                                                                     | 0.950                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (prot)       | 0                                                                                 | 1339                                                                              | 0                                                                                 | 1752                                                                              | 1489                                                                              | 0                                                                                 | 0                                                                                  | 1753                                                                                | 0                                                                                   | 1770                                                                                | 1753                                                                                | 0                                                                                   |
| Flt Permitted           |                                                                                   | 0.984                                                                             |                                                                                   | 0.950                                                                             |                                                                                   |                                                                                   |                                                                                    | 0.997                                                                               |                                                                                     | 0.950                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (perm)       | 0                                                                                 | 1339                                                                              | 0                                                                                 | 1752                                                                              | 1489                                                                              | 0                                                                                 | 0                                                                                  | 1753                                                                                | 0                                                                                   | 1770                                                                                | 1753                                                                                | 0                                                                                   |
| Link Speed (mph)        |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 35                                                                                |                                                                                   |                                                                                    | 35                                                                                  |                                                                                     |                                                                                     | 35                                                                                  |                                                                                     |
| Link Distance (ft)      |                                                                                   | 831                                                                               |                                                                                   |                                                                                   | 703                                                                               |                                                                                   |                                                                                    | 907                                                                                 |                                                                                     |                                                                                     | 461                                                                                 |                                                                                     |
| Travel Time (s)         |                                                                                   | 16.2                                                                              |                                                                                   |                                                                                   | 13.7                                                                              |                                                                                   |                                                                                    | 17.7                                                                                |                                                                                     |                                                                                     | 9.0                                                                                 |                                                                                     |
| Peak Hour Factor        | 0.38                                                                              | 0.25                                                                              | 0.25                                                                              | 0.59                                                                              | 0.44                                                                              | 0.74                                                                              | 0.38                                                                               | 0.65                                                                                | 0.61                                                                                | 0.63                                                                                | 0.70                                                                                | 0.57                                                                                |
| Heavy Vehicles (%)      | 17%                                                                               | 33%                                                                               | 50%                                                                               | 3%                                                                                | 57%                                                                               | 7%                                                                                | 2%                                                                                 | 2%                                                                                  | 7%                                                                                  | 2%                                                                                  | 2%                                                                                  | 13%                                                                                 |
| Adj. Flow (vph)         | 16                                                                                | 16                                                                                | 16                                                                                | 68                                                                                | 16                                                                                | 322                                                                               | 16                                                                                 | 145                                                                                 | 72                                                                                  | 189                                                                                 | 91                                                                                  | 28                                                                                  |
| Shared Lane Traffic (%) |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)   | 0                                                                                 | 48                                                                                | 0                                                                                 | 68                                                                                | 338                                                                               | 0                                                                                 | 0                                                                                  | 233                                                                                 | 0                                                                                   | 189                                                                                 | 119                                                                                 | 0                                                                                   |
| Sign Control            |                                                                                   | Stop                                                                              |                                                                                   |                                                                                   | Stop                                                                              |                                                                                   |                                                                                    | Free                                                                                |                                                                                     |                                                                                     | Free                                                                                |                                                                                     |

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 39.6% ICU Level of Service A

Analysis Period (min) 15

# HCM Unsignalized Intersection Capacity Analysis

## 7: Mt. Harmony Church Rd & Stevens Mill Rd

Stallings Farms TIA  
2020 Existing AM

|                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                                   |  |  |  |  |  |  |  |  |  |  |  |  |
| Movement                          | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |                                                                                   |  |                                                                                   |  |  |                                                                                   |                                                                                     |  |                                                                                     |  |  |                                                                                     |
| Traffic Volume (veh/h)            | 6                                                                                 | 4                                                                                 | 4                                                                                 | 40                                                                                | 7                                                                                 | 238                                                                               | 6                                                                                   | 94                                                                                  | 44                                                                                  | 119                                                                                 | 64                                                                                  | 16                                                                                  |
| Future Volume (Veh/h)             | 6                                                                                 | 4                                                                                 | 4                                                                                 | 40                                                                                | 7                                                                                 | 238                                                                               | 6                                                                                   | 94                                                                                  | 44                                                                                  | 119                                                                                 | 64                                                                                  | 16                                                                                  |
| Sign Control                      |                                                                                   | Stop                                                                              |                                                                                   |                                                                                   | Stop                                                                              |                                                                                   |                                                                                     | Free                                                                                |                                                                                     |                                                                                     | Free                                                                                |                                                                                     |
| Grade                             |                                                                                   | 0%                                                                                |                                                                                   |                                                                                   | 0%                                                                                |                                                                                   |                                                                                     | 0%                                                                                  |                                                                                     |                                                                                     | 0%                                                                                  |                                                                                     |
| Peak Hour Factor                  | 0.38                                                                              | 0.25                                                                              | 0.25                                                                              | 0.59                                                                              | 0.44                                                                              | 0.74                                                                              | 0.38                                                                                | 0.65                                                                                | 0.61                                                                                | 0.63                                                                                | 0.70                                                                                | 0.57                                                                                |
| Hourly flow rate (vph)            | 16                                                                                | 16                                                                                | 16                                                                                | 68                                                                                | 16                                                                                | 322                                                                               | 16                                                                                  | 145                                                                                 | 72                                                                                  | 189                                                                                 | 91                                                                                  | 28                                                                                  |
| Pedestrians                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Width (ft)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Walking Speed (ft/s)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Percent Blockage                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Right turn flare (veh)            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Median type                       | None                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     | None                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Median storage (veh)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Upstream signal (ft)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| pX, platoon unblocked             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| vC, conflicting volume            | 1026                                                                              | 732                                                                               | 105                                                                               | 706                                                                               | 710                                                                               | 181                                                                               | 119                                                                                 | 217                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| vC1, stage 1 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| vC2, stage 2 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| vCu, unblocked vol                | 1026                                                                              | 732                                                                               | 105                                                                               | 706                                                                               | 710                                                                               | 181                                                                               | 119                                                                                 | 217                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| tC, single (s)                    | 7.3                                                                               | 6.8                                                                               | 6.7                                                                               | 7.1                                                                               | 7.1                                                                               | 6.3                                                                               | 4.1                                                                                 | 4.1                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| tC, 2 stage (s)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| tF (s)                            | 3.7                                                                               | 4.3                                                                               | 3.8                                                                               | 3.5                                                                               | 4.5                                                                               | 3.4                                                                               | 2.2                                                                                 | 2.2                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| p0 queue free %                   | 85                                                                                | 94                                                                                | 98                                                                                | 77                                                                                | 94                                                                                | 62                                                                                | 99                                                                                  | 86                                                                                  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| cM capacity (veh/h)               | 105                                                                               | 267                                                                               | 834                                                                               | 290                                                                               | 254                                                                               | 849                                                                               | 1469                                                                                | 1353                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Direction, Lane #                 | EB 1                                                                              | WB 1                                                                              | WB 2                                                                              | NB 1                                                                              | SB 1                                                                              | SB 2                                                                              |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Total                      | 48                                                                                | 68                                                                                | 338                                                                               | 233                                                                               | 189                                                                               | 119                                                                               |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Left                       | 16                                                                                | 68                                                                                | 0                                                                                 | 16                                                                                | 189                                                                               | 0                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Right                      | 16                                                                                | 0                                                                                 | 322                                                                               | 72                                                                                | 0                                                                                 | 28                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| cSH                               | 207                                                                               | 290                                                                               | 764                                                                               | 1469                                                                              | 1353                                                                              | 1700                                                                              |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume to Capacity                | 0.23                                                                              | 0.23                                                                              | 0.44                                                                              | 0.01                                                                              | 0.14                                                                              | 0.07                                                                              |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Queue Length 95th (ft)            | 22                                                                                | 22                                                                                | 57                                                                                | 1                                                                                 | 12                                                                                | 0                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Control Delay (s)                 | 27.6                                                                              | 21.2                                                                              | 13.4                                                                              | 0.6                                                                               | 8.1                                                                               | 0.0                                                                               |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane LOS                          | D                                                                                 | C                                                                                 | B                                                                                 | A                                                                                 | A                                                                                 |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Approach Delay (s)                | 27.6                                                                              | 14.7                                                                              |                                                                                   | 0.6                                                                               | 5.0                                                                               |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Approach LOS                      | D                                                                                 | B                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Average Delay                     | 9.0                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Capacity Utilization | 39.6%                                                                             |                                                                                   |                                                                                   | ICU Level of Service                                                              |                                                                                   |                                                                                   |                                                                                     |                                                                                     | A                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Analysis Period (min)             | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

Lanes, Volumes, Timings  
8: Oakspring Rd & Stevens Mill Rd

Stallings Farms TIA  
2020 Existing AM

|                                   |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group                        | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | NBL                                                                               | NBR                                                                               |
| Lane Configurations               |  |                                                                                   |                                                                                   |  |  |                                                                                   |
| Traffic Volume (vph)              | 224                                                                               | 284                                                                               | 139                                                                               | 471                                                                               | 195                                                                               | 66                                                                                |
| Future Volume (vph)               | 224                                                                               | 284                                                                               | 139                                                                               | 471                                                                               | 195                                                                               | 66                                                                                |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Lane Util. Factor                 | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Frt                               | 0.938                                                                             |                                                                                   |                                                                                   |                                                                                   | 0.962                                                                             |                                                                                   |
| Flt Protected                     |                                                                                   |                                                                                   |                                                                                   | 0.990                                                                             | 0.965                                                                             |                                                                                   |
| Satd. Flow (prot)                 | 1729                                                                              | 0                                                                                 | 0                                                                                 | 1844                                                                              | 1649                                                                              | 0                                                                                 |
| Flt Permitted                     |                                                                                   |                                                                                   |                                                                                   | 0.990                                                                             | 0.965                                                                             |                                                                                   |
| Satd. Flow (perm)                 | 1729                                                                              | 0                                                                                 | 0                                                                                 | 1844                                                                              | 1649                                                                              | 0                                                                                 |
| Link Speed (mph)                  | 45                                                                                |                                                                                   |                                                                                   | 45                                                                                | 35                                                                                |                                                                                   |
| Link Distance (ft)                | 940                                                                               |                                                                                   |                                                                                   | 594                                                                               | 925                                                                               |                                                                                   |
| Travel Time (s)                   | 14.2                                                                              |                                                                                   |                                                                                   | 9.0                                                                               | 18.0                                                                              |                                                                                   |
| Peak Hour Factor                  | 0.58                                                                              | 0.86                                                                              | 0.81                                                                              | 0.73                                                                              | 0.90                                                                              | 0.79                                                                              |
| Heavy Vehicles (%)                | 4%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                | 5%                                                                                | 12%                                                                               |
| Adj. Flow (vph)                   | 386                                                                               | 330                                                                               | 172                                                                               | 645                                                                               | 217                                                                               | 84                                                                                |
| Shared Lane Traffic (%)           |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)             | 716                                                                               | 0                                                                                 | 0                                                                                 | 817                                                                               | 301                                                                               | 0                                                                                 |
| Sign Control                      | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              | Stop                                                                              |                                                                                   |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Area Type:                        | Other                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Control Type:                     | Unsignalized                                                                      |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization | 86.5%                                                                             |                                                                                   |                                                                                   | ICU Level of Service E                                                            |                                                                                   |                                                                                   |
| Analysis Period (min)             | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |



# HCM Unsignalized Intersection Capacity Analysis

## 8: Oakspring Rd & Stevens Mill Rd

Stallings Farms TIA  
2020 Existing AM

|                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|                                   |  |  |  |  |  |  |
| Movement                          | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | NBL                                                                               | NBR                                                                               |
| Lane Configurations               |  |                                                                                   |                                                                                   |  |  |  |
| Traffic Volume (veh/h)            | 224                                                                               | 284                                                                               | 139                                                                               | 471                                                                               | 195                                                                               | 66                                                                                |
| Future Volume (Veh/h)             | 224                                                                               | 284                                                                               | 139                                                                               | 471                                                                               | 195                                                                               | 66                                                                                |
| Sign Control                      | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              | Stop                                                                              |                                                                                   |
| Grade                             | 0%                                                                                |                                                                                   |                                                                                   | 0%                                                                                | 0%                                                                                |                                                                                   |
| Peak Hour Factor                  | 0.58                                                                              | 0.86                                                                              | 0.81                                                                              | 0.73                                                                              | 0.90                                                                              | 0.79                                                                              |
| Hourly flow rate (vph)            | 386                                                                               | 330                                                                               | 172                                                                               | 645                                                                               | 217                                                                               | 84                                                                                |
| Pedestrians                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Width (ft)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Walking Speed (ft/s)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Percent Blockage                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Right turn flare (veh)            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Median type                       | None                                                                              |                                                                                   |                                                                                   | None                                                                              |                                                                                   |                                                                                   |
| Median storage veh                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Upstream signal (ft)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| pX, platoon unblocked             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC, conflicting volume            |                                                                                   |                                                                                   | 716                                                                               |                                                                                   | 1540                                                                              | 551                                                                               |
| vC1, stage 1 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC2, stage 2 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vCu, unblocked vol                |                                                                                   |                                                                                   | 716                                                                               |                                                                                   | 1540                                                                              | 551                                                                               |
| tC, single (s)                    |                                                                                   |                                                                                   | 4.1                                                                               |                                                                                   | 6.4                                                                               | 6.3                                                                               |
| tC, 2 stage (s)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| tF (s)                            |                                                                                   |                                                                                   | 2.2                                                                               |                                                                                   | 3.5                                                                               | 3.4                                                                               |
| p0 queue free %                   |                                                                                   |                                                                                   | 81                                                                                |                                                                                   | 0                                                                                 | 84                                                                                |
| cM capacity (veh/h)               |                                                                                   |                                                                                   | 885                                                                               |                                                                                   | 101                                                                               | 515                                                                               |
| Direction, Lane #                 | EB 1                                                                              | WB 1                                                                              | NB 1                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Volume Total                      | 716                                                                               | 817                                                                               | 301                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Volume Left                       | 0                                                                                 | 172                                                                               | 217                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Volume Right                      | 330                                                                               | 0                                                                                 | 84                                                                                |                                                                                   |                                                                                   |                                                                                   |
| cSH                               | 1700                                                                              | 885                                                                               | 130                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Volume to Capacity                | 0.42                                                                              | 0.19                                                                              | 2.32                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Queue Length 95th (ft)            | 0                                                                                 | 18                                                                                | 644                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Control Delay (s)                 | 0.0                                                                               | 4.6                                                                               | 671.3                                                                             |                                                                                   |                                                                                   |                                                                                   |
| Lane LOS                          |                                                                                   | A                                                                                 | F                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| Approach Delay (s)                | 0.0                                                                               | 4.6                                                                               | 671.3                                                                             |                                                                                   |                                                                                   |                                                                                   |
| Approach LOS                      |                                                                                   |                                                                                   | F                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Average Delay                     |                                                                                   |                                                                                   | 112.2                                                                             |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 86.5%                                                                             | ICU Level of Service                                                              |                                                                                   | E                                                                                 |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |

Lanes, Volumes, Timings  
1: Stallings Rd & Stevens Mill Rd

Stallings Farms TIA  
2020 Existing PM

|                         |  |  |  |  |  |  |   |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations     |                                                                                   |  |                                                                                   |                                                                                   |  |  |  |  |                                                                                     |  |  |                                                                                     |
| Traffic Volume (vph)    | 8                                                                                 | 149                                                                               | 25                                                                                | 121                                                                               | 41                                                                                | 80                                                                                | 12                                                                                  | 143                                                                                 | 231                                                                                 | 266                                                                                 | 145                                                                                 | 11                                                                                  |
| Future Volume (vph)     | 8                                                                                 | 149                                                                               | 25                                                                                | 121                                                                               | 41                                                                                | 80                                                                                | 12                                                                                  | 143                                                                                 | 231                                                                                 | 266                                                                                 | 145                                                                                 | 11                                                                                  |
| Ideal Flow (vphpl)      | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)     | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 300                                                                               | 150                                                                                 |                                                                                     | 0                                                                                   | 150                                                                                 |                                                                                     | 0                                                                                   |
| Storage Lanes           | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 1                                                                                 | 1                                                                                   |                                                                                     | 0                                                                                   | 1                                                                                   |                                                                                     | 0                                                                                   |
| Taper Length (ft)       | 25                                                                                |                                                                                   |                                                                                   | 25                                                                                |                                                                                   |                                                                                   | 100                                                                                 |                                                                                     |                                                                                     | 100                                                                                 |                                                                                     |                                                                                     |
| Lane Util. Factor       | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Ped Bike Factor         |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Frt                     |                                                                                   | 0.975                                                                             |                                                                                   |                                                                                   |                                                                                   | 0.850                                                                             |                                                                                     | 0.906                                                                               |                                                                                     |                                                                                     | 0.986                                                                               |                                                                                     |
| Flt Protected           |                                                                                   | 0.997                                                                             |                                                                                   |                                                                                   | 0.968                                                                             |                                                                                   | 0.950                                                                               |                                                                                     |                                                                                     | 0.950                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (prot)       | 0                                                                                 | 1797                                                                              | 0                                                                                 | 0                                                                                 | 1768                                                                              | 1583                                                                              | 1671                                                                                | 1682                                                                                | 0                                                                                   | 1687                                                                                | 1820                                                                                | 0                                                                                   |
| Flt Permitted           |                                                                                   | 0.997                                                                             |                                                                                   |                                                                                   | 0.968                                                                             |                                                                                   | 0.950                                                                               |                                                                                     |                                                                                     | 0.950                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (perm)       | 0                                                                                 | 1797                                                                              | 0                                                                                 | 0                                                                                 | 1768                                                                              | 1583                                                                              | 1671                                                                                | 1682                                                                                | 0                                                                                   | 1687                                                                                | 1820                                                                                | 0                                                                                   |
| Link Speed (mph)        |                                                                                   | 45                                                                                |                                                                                   |                                                                                   | 45                                                                                |                                                                                   |                                                                                     | 45                                                                                  |                                                                                     |                                                                                     | 45                                                                                  |                                                                                     |
| Link Distance (ft)      |                                                                                   | 1672                                                                              |                                                                                   |                                                                                   | 940                                                                               |                                                                                   |                                                                                     | 1668                                                                                |                                                                                     |                                                                                     | 1502                                                                                |                                                                                     |
| Travel Time (s)         |                                                                                   | 25.3                                                                              |                                                                                   |                                                                                   | 14.2                                                                              |                                                                                   |                                                                                     | 25.3                                                                                |                                                                                     |                                                                                     | 22.8                                                                                |                                                                                     |
| Confl. Bikes (#/hr)     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Peak Hour Factor        | 0.67                                                                              | 0.91                                                                              | 0.63                                                                              | 0.84                                                                              | 0.57                                                                              | 0.95                                                                              | 0.50                                                                                | 0.89                                                                                | 0.85                                                                                | 0.91                                                                                | 0.74                                                                                | 0.55                                                                                |
| Heavy Vehicles (%)      | 2%                                                                                | 3%                                                                                | 2%                                                                                | 5%                                                                                | 2%                                                                                | 2%                                                                                | 8%                                                                                  | 3%                                                                                  | 2%                                                                                  | 7%                                                                                  | 3%                                                                                  | 2%                                                                                  |
| Adj. Flow (vph)         | 12                                                                                | 164                                                                               | 40                                                                                | 144                                                                               | 72                                                                                | 84                                                                                | 24                                                                                  | 161                                                                                 | 272                                                                                 | 292                                                                                 | 196                                                                                 | 20                                                                                  |
| Shared Lane Traffic (%) |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)   | 0                                                                                 | 216                                                                               | 0                                                                                 | 0                                                                                 | 216                                                                               | 84                                                                                | 24                                                                                  | 433                                                                                 | 0                                                                                   | 292                                                                                 | 216                                                                                 | 0                                                                                   |
| Sign Control            |                                                                                   | Stop                                                                              |                                                                                   |                                                                                   | Stop                                                                              |                                                                                   |                                                                                     | Stop                                                                                |                                                                                     |                                                                                     | Stop                                                                                |                                                                                     |

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 68.4% ICU Level of Service C

Analysis Period (min) 15

# HCM Unsignalized Intersection Capacity Analysis

## 1: Stallings Rd & Stevens Mill Rd

Stallings Farms TIA

2020 Existing PM

|                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                                   |  |  |  |  |  |  |   |  |  |  |  |  |
| Movement                          | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |                                                                                   |  |                                                                                   |                                                                                   |  |  |  |  |                                                                                     |  |  |                                                                                     |
| Sign Control                      |                                                                                   | Stop                                                                              |                                                                                   |                                                                                   | Stop                                                                              |                                                                                   |                                                                                     | Stop                                                                                |                                                                                     |                                                                                     | Stop                                                                                |                                                                                     |
| Traffic Volume (vph)              | 8                                                                                 | 149                                                                               | 25                                                                                | 121                                                                               | 41                                                                                | 80                                                                                | 12                                                                                  | 143                                                                                 | 231                                                                                 | 266                                                                                 | 145                                                                                 | 11                                                                                  |
| Future Volume (vph)               | 8                                                                                 | 149                                                                               | 25                                                                                | 121                                                                               | 41                                                                                | 80                                                                                | 12                                                                                  | 143                                                                                 | 231                                                                                 | 266                                                                                 | 145                                                                                 | 11                                                                                  |
| Peak Hour Factor                  | 0.67                                                                              | 0.91                                                                              | 0.63                                                                              | 0.84                                                                              | 0.57                                                                              | 0.95                                                                              | 0.50                                                                                | 0.89                                                                                | 0.85                                                                                | 0.91                                                                                | 0.74                                                                                | 0.55                                                                                |
| Hourly flow rate (vph)            | 12                                                                                | 164                                                                               | 40                                                                                | 144                                                                               | 72                                                                                | 84                                                                                | 24                                                                                  | 161                                                                                 | 272                                                                                 | 292                                                                                 | 196                                                                                 | 20                                                                                  |
| Direction, Lane #                 | EB 1                                                                              | WB 1                                                                              | WB 2                                                                              | NB 1                                                                              | NB 2                                                                              | SB 1                                                                              | SB 2                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Total (vph)                | 216                                                                               | 216                                                                               | 84                                                                                | 24                                                                                | 433                                                                               | 292                                                                               | 216                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Left (vph)                 | 12                                                                                | 144                                                                               | 0                                                                                 | 24                                                                                | 0                                                                                 | 292                                                                               | 0                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Right (vph)                | 40                                                                                | 0                                                                                 | 84                                                                                | 0                                                                                 | 272                                                                               | 0                                                                                 | 20                                                                                  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Hadj (s)                          | -0.05                                                                             | 0.40                                                                              | -0.67                                                                             | 0.64                                                                              | -0.40                                                                             | 0.62                                                                              | -0.02                                                                               |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Departure Headway (s)             | 8.1                                                                               | 8.5                                                                               | 7.4                                                                               | 8.2                                                                               | 7.2                                                                               | 8.2                                                                               | 7.5                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Degree Utilization, x             | 0.49                                                                              | 0.51                                                                              | 0.17                                                                              | 0.05                                                                              | 0.86                                                                              | 0.66                                                                              | 0.45                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Capacity (veh/h)                  | 414                                                                               | 386                                                                               | 452                                                                               | 420                                                                               | 489                                                                               | 421                                                                               | 449                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Control Delay (s)                 | 18.7                                                                              | 19.0                                                                              | 10.8                                                                              | 10.5                                                                              | 39.3                                                                              | 24.7                                                                              | 15.4                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Approach Delay (s)                | 18.7                                                                              | 16.7                                                                              |                                                                                   | 37.8                                                                              |                                                                                   | 20.8                                                                              |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Approach LOS                      | C                                                                                 | C                                                                                 |                                                                                   | E                                                                                 |                                                                                   | C                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Delay                             |                                                                                   |                                                                                   | 24.9                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Level of Service                  |                                                                                   |                                                                                   | C                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 68.4%                                                                             | ICU Level of Service                                                              |                                                                                   | C                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

Lanes, Volumes, Timings  
2: Stallings Rd & Sweet Birch Dr

Stallings Farms TIA  
2020 Existing PM

|                                   |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group                        | WBL                                                                               | WBR                                                                               | NBT                                                                               | NBR                                                                               | SBL                                                                               | SBT                                                                               |
| Lane Configurations               |  |                                                                                   |  |                                                                                   |                                                                                   |  |
| Traffic Volume (vph)              | 17                                                                                | 23                                                                                | 363                                                                               | 30                                                                                | 40                                                                                | 251                                                                               |
| Future Volume (vph)               | 17                                                                                | 23                                                                                | 363                                                                               | 30                                                                                | 40                                                                                | 251                                                                               |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Lane Util. Factor                 | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Frt                               | 0.922                                                                             |                                                                                   | 0.990                                                                             |                                                                                   |                                                                                   |                                                                                   |
| Flt Protected                     | 0.979                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.993                                                                             |
| Satd. Flow (prot)                 | 1681                                                                              | 0                                                                                 | 1828                                                                              | 0                                                                                 | 0                                                                                 | 1819                                                                              |
| Flt Permitted                     | 0.979                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.993                                                                             |
| Satd. Flow (perm)                 | 1681                                                                              | 0                                                                                 | 1828                                                                              | 0                                                                                 | 0                                                                                 | 1819                                                                              |
| Link Speed (mph)                  | 25                                                                                |                                                                                   | 45                                                                                |                                                                                   |                                                                                   | 45                                                                                |
| Link Distance (ft)                | 597                                                                               |                                                                                   | 2030                                                                              |                                                                                   |                                                                                   | 1668                                                                              |
| Travel Time (s)                   | 16.3                                                                              |                                                                                   | 30.8                                                                              |                                                                                   |                                                                                   | 25.3                                                                              |
| Peak Hour Factor                  | 0.90                                                                              | 0.90                                                                              | 0.85                                                                              | 0.85                                                                              | 0.87                                                                              | 0.87                                                                              |
| Heavy Vehicles (%)                | 2%                                                                                | 2%                                                                                | 3%                                                                                | 2%                                                                                | 2%                                                                                | 4%                                                                                |
| Adj. Flow (vph)                   | 19                                                                                | 26                                                                                | 427                                                                               | 35                                                                                | 46                                                                                | 289                                                                               |
| Shared Lane Traffic (%)           |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)             | 45                                                                                | 0                                                                                 | 462                                                                               | 0                                                                                 | 0                                                                                 | 335                                                                               |
| Sign Control                      | Stop                                                                              |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Area Type:                        | Other                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Control Type:                     | Unsignalized                                                                      |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization | 49.7%                                                                             |                                                                                   |                                                                                   | ICU Level of Service A                                                            |                                                                                   |                                                                                   |
| Analysis Period (min)             | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |

# HCM Unsignalized Intersection Capacity Analysis

## 2: Stallings Rd & Sweet Birch Dr

Stallings Farms TIA  
2020 Existing PM

|                                   |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Movement                          | WBL                                                                               | WBR                                                                               | NBT                                                                               | NBR                                                                               | SBL                                                                               | SBT                                                                               |
| Lane Configurations               |  |                                                                                   |  |                                                                                   |                                                                                   |  |
| Traffic Volume (veh/h)            | 17                                                                                | 23                                                                                | 363                                                                               | 30                                                                                | 40                                                                                | 251                                                                               |
| Future Volume (Veh/h)             | 17                                                                                | 23                                                                                | 363                                                                               | 30                                                                                | 40                                                                                | 251                                                                               |
| Sign Control                      | Stop                                                                              |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              |
| Grade                             | 0%                                                                                |                                                                                   | 0%                                                                                |                                                                                   |                                                                                   | 0%                                                                                |
| Peak Hour Factor                  | 0.90                                                                              | 0.90                                                                              | 0.85                                                                              | 0.85                                                                              | 0.87                                                                              | 0.87                                                                              |
| Hourly flow rate (vph)            | 19                                                                                | 26                                                                                | 427                                                                               | 35                                                                                | 46                                                                                | 289                                                                               |
| Pedestrians                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Width (ft)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Walking Speed (ft/s)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Percent Blockage                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Right turn flare (veh)            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Median type                       |                                                                                   |                                                                                   | None                                                                              |                                                                                   |                                                                                   | None                                                                              |
| Median storage (veh)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Upstream signal (ft)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| pX, platoon unblocked             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC, conflicting volume            | 826                                                                               | 444                                                                               |                                                                                   |                                                                                   | 462                                                                               |                                                                                   |
| vC1, stage 1 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC2, stage 2 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vCu, unblocked vol                | 826                                                                               | 444                                                                               |                                                                                   |                                                                                   | 462                                                                               |                                                                                   |
| tC, single (s)                    | 6.4                                                                               | 6.2                                                                               |                                                                                   |                                                                                   | 4.1                                                                               |                                                                                   |
| tC, 2 stage (s)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| tF (s)                            | 3.5                                                                               | 3.3                                                                               |                                                                                   |                                                                                   | 2.2                                                                               |                                                                                   |
| p0 queue free %                   | 94                                                                                | 96                                                                                |                                                                                   |                                                                                   | 96                                                                                |                                                                                   |
| cM capacity (veh/h)               | 328                                                                               | 614                                                                               |                                                                                   |                                                                                   | 1099                                                                              |                                                                                   |
| Direction, Lane #                 | WB 1                                                                              | NB 1                                                                              | SB 1                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Volume Total                      | 45                                                                                | 462                                                                               | 335                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Volume Left                       | 19                                                                                | 0                                                                                 | 46                                                                                |                                                                                   |                                                                                   |                                                                                   |
| Volume Right                      | 26                                                                                | 35                                                                                | 0                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| cSH                               | 448                                                                               | 1700                                                                              | 1099                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Volume to Capacity                | 0.10                                                                              | 0.27                                                                              | 0.04                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Queue Length 95th (ft)            | 8                                                                                 | 0                                                                                 | 3                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| Control Delay (s)                 | 13.9                                                                              | 0.0                                                                               | 1.5                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Lane LOS                          | B                                                                                 |                                                                                   | A                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| Approach Delay (s)                | 13.9                                                                              | 0.0                                                                               | 1.5                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Approach LOS                      | B                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Average Delay                     |                                                                                   | 1.3                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization |                                                                                   | 49.7%                                                                             |                                                                                   | ICU Level of Service                                                              |                                                                                   | A                                                                                 |
| Analysis Period (min)             |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |

Lanes, Volumes, Timings  
3: Nouvelle Dr & Sweet Birch Dr

Stallings Farms TIA  
2020 Existing PM

|                                   |              |      |      |                        |       |      |
|-----------------------------------|--------------|------|------|------------------------|-------|------|
|                                   | →            | ↘    | ↙    | ←                      | ↖     | ↗    |
| Lane Group                        | EBT          | EBR  | WBL  | WBT                    | NBL   | NBR  |
| Lane Configurations               | ↗            |      |      | ↖                      | ↗     |      |
| Traffic Volume (vph)              | 64           | 6    | 4    | 37                     | 4     | 4    |
| Future Volume (vph)               | 64           | 6    | 4    | 37                     | 4     | 4    |
| Ideal Flow (vphpl)                | 1900         | 1900 | 1900 | 1900                   | 1900  | 1900 |
| Lane Util. Factor                 | 1.00         | 1.00 | 1.00 | 1.00                   | 1.00  | 1.00 |
| Frt                               | 0.988        |      |      |                        | 0.932 |      |
| Flt Protected                     |              |      |      | 0.996                  | 0.976 |      |
| Satd. Flow (prot)                 | 1840         | 0    | 0    | 1855                   | 1694  | 0    |
| Flt Permitted                     |              |      |      | 0.996                  | 0.976 |      |
| Satd. Flow (perm)                 | 1840         | 0    | 0    | 1855                   | 1694  | 0    |
| Link Speed (mph)                  | 25           |      |      | 25                     | 25    |      |
| Link Distance (ft)                | 597          |      |      | 435                    | 1037  |      |
| Travel Time (s)                   | 16.3         |      |      | 11.9                   | 28.3  |      |
| Peak Hour Factor                  | 0.90         | 0.90 | 0.90 | 0.90                   | 0.90  | 0.90 |
| Adj. Flow (vph)                   | 71           | 7    | 4    | 41                     | 4     | 4    |
| Shared Lane Traffic (%)           |              |      |      |                        |       |      |
| Lane Group Flow (vph)             | 78           | 0    | 0    | 45                     | 8     | 0    |
| Sign Control                      | Free         |      |      | Free                   | Stop  |      |
| Intersection Summary              |              |      |      |                        |       |      |
| Area Type:                        | Other        |      |      |                        |       |      |
| Control Type:                     | Unsignalized |      |      |                        |       |      |
| Intersection Capacity Utilization | 15.3%        |      |      | ICU Level of Service A |       |      |
| Analysis Period (min)             | 15           |      |      |                        |       |      |



# HCM Unsignalized Intersection Capacity Analysis

## 3: Nouvelle Dr & Sweet Birch Dr

Stallings Farms TIA  
2020 Existing PM

|                                   |      |       |                      |      |      |      |
|-----------------------------------|------|-------|----------------------|------|------|------|
|                                   | →    | ↘     | ↙                    | ←    | ↖    | ↗    |
| Movement                          | EBT  | EBR   | WBL                  | WBT  | NBL  | NBR  |
| Lane Configurations               | ↱    |       |                      | ↱    | ↘↙   |      |
| Traffic Volume (veh/h)            | 64   | 6     | 4                    | 37   | 4    | 4    |
| Future Volume (Veh/h)             | 64   | 6     | 4                    | 37   | 4    | 4    |
| Sign Control                      | Free |       |                      | Free | Stop |      |
| Grade                             | 0%   |       |                      | 0%   | 0%   |      |
| Peak Hour Factor                  | 0.90 | 0.90  | 0.90                 | 0.90 | 0.90 | 0.90 |
| Hourly flow rate (vph)            | 71   | 7     | 4                    | 41   | 4    | 4    |
| Pedestrians                       |      |       |                      |      |      |      |
| Lane Width (ft)                   |      |       |                      |      |      |      |
| Walking Speed (ft/s)              |      |       |                      |      |      |      |
| Percent Blockage                  |      |       |                      |      |      |      |
| Right turn flare (veh)            |      |       |                      |      |      |      |
| Median type                       | None |       |                      | None |      |      |
| Median storage veh                |      |       |                      |      |      |      |
| Upstream signal (ft)              |      |       |                      |      |      |      |
| pX, platoon unblocked             |      |       |                      |      |      |      |
| vC, conflicting volume            |      |       | 78                   |      | 124  | 74   |
| vC1, stage 1 conf vol             |      |       |                      |      |      |      |
| vC2, stage 2 conf vol             |      |       |                      |      |      |      |
| vCu, unblocked vol                |      |       | 78                   |      | 124  | 74   |
| tC, single (s)                    |      |       | 4.1                  |      | 6.4  | 6.2  |
| tC, 2 stage (s)                   |      |       |                      |      |      |      |
| tF (s)                            |      |       | 2.2                  |      | 3.5  | 3.3  |
| p0 queue free %                   |      |       | 100                  |      | 100  | 100  |
| cM capacity (veh/h)               |      |       | 1520                 |      | 869  | 987  |
| Direction, Lane #                 | EB 1 | WB 1  | NB 1                 |      |      |      |
| Volume Total                      | 78   | 45    | 8                    |      |      |      |
| Volume Left                       | 0    | 4     | 4                    |      |      |      |
| Volume Right                      | 7    | 0     | 4                    |      |      |      |
| cSH                               | 1700 | 1520  | 924                  |      |      |      |
| Volume to Capacity                | 0.05 | 0.00  | 0.01                 |      |      |      |
| Queue Length 95th (ft)            | 0    | 0     | 1                    |      |      |      |
| Control Delay (s)                 | 0.0  | 0.7   | 8.9                  |      |      |      |
| Lane LOS                          |      | A     | A                    |      |      |      |
| Approach Delay (s)                | 0.0  | 0.7   | 8.9                  |      |      |      |
| Approach LOS                      |      |       | A                    |      |      |      |
| Intersection Summary              |      |       |                      |      |      |      |
| Average Delay                     |      | 0.8   |                      |      |      |      |
| Intersection Capacity Utilization |      | 15.3% | ICU Level of Service | A    |      |      |
| Analysis Period (min)             |      | 15    |                      |      |      |      |

Lanes, Volumes, Timings  
4: Stallings Rd & Monroe Expressway WB Ramp

Stallings Farms TIA

2020 Existing PM

|                         |  |      |      |                                                                                   |                                                                                   |      |                                                                                    |                                                                                     |      |      |                                                                                     |      |
|-------------------------|------------------------------------------------------------------------------------|------|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------|------|-------------------------------------------------------------------------------------|------|
| Lane Group              | EBL                                                                                | EBT  | EBR  | WBL                                                                               | WBT                                                                               | WBR  | NBL                                                                                | NBT                                                                                 | NBR  | SBL  | SBT                                                                                 | SBR  |
| Lane Configurations     |                                                                                    |      |      |  |  |      |  |  |      |      |  |      |
| Traffic Volume (vph)    | 0                                                                                  | 0    | 0    | 111                                                                               | 99                                                                                | 102  | 406                                                                                | 307                                                                                 | 0    | 0    | 235                                                                                 | 132  |
| Future Volume (vph)     | 0                                                                                  | 0    | 0    | 111                                                                               | 99                                                                                | 102  | 406                                                                                | 307                                                                                 | 0    | 0    | 235                                                                                 | 132  |
| Ideal Flow (vphpl)      | 1900                                                                               | 1900 | 1900 | 1900                                                                              | 1900                                                                              | 1900 | 1900                                                                               | 1900                                                                                | 1900 | 1900 | 1900                                                                                | 1900 |
| Storage Length (ft)     | 0                                                                                  |      | 0    | 325                                                                               |                                                                                   | 50   | 0                                                                                  |                                                                                     | 0    | 0    |                                                                                     | 200  |
| Storage Lanes           | 0                                                                                  |      | 0    | 1                                                                                 |                                                                                   | 0    | 2                                                                                  |                                                                                     | 0    | 0    |                                                                                     | 2    |
| Taper Length (ft)       | 25                                                                                 |      |      | 100                                                                               |                                                                                   |      | 25                                                                                 |                                                                                     |      | 25   |                                                                                     |      |
| Lane Util. Factor       | 1.00                                                                               | 1.00 | 1.00 | 1.00                                                                              | 0.95                                                                              | 0.95 | 0.97                                                                               | 0.95                                                                                | 1.00 | 1.00 | 0.86                                                                                | 0.86 |
| Frt                     |                                                                                    |      |      |                                                                                   | 0.925                                                                             |      |                                                                                    |                                                                                     |      |      | 0.937                                                                               |      |
| Flt Protected           |                                                                                    |      |      | 0.950                                                                             |                                                                                   |      | 0.950                                                                              |                                                                                     |      |      |                                                                                     |      |
| Satd. Flow (prot)       | 0                                                                                  | 0    | 0    | 1719                                                                              | 3274                                                                              | 0    | 3433                                                                               | 3539                                                                                | 0    | 0    | 5970                                                                                | 0    |
| Flt Permitted           |                                                                                    |      |      | 0.950                                                                             |                                                                                   |      | 0.950                                                                              |                                                                                     |      |      |                                                                                     |      |
| Satd. Flow (perm)       | 0                                                                                  | 0    | 0    | 1719                                                                              | 3274                                                                              | 0    | 3433                                                                               | 3539                                                                                | 0    | 0    | 5970                                                                                | 0    |
| Right Turn on Red       |                                                                                    |      | No   |                                                                                   |                                                                                   | No   |                                                                                    |                                                                                     | No   |      |                                                                                     | No   |
| Satd. Flow (RTOR)       |                                                                                    |      |      |                                                                                   |                                                                                   |      |                                                                                    |                                                                                     |      |      |                                                                                     |      |
| Link Speed (mph)        |                                                                                    | 30   |      |                                                                                   | 45                                                                                |      |                                                                                    | 35                                                                                  |      |      | 45                                                                                  |      |
| Link Distance (ft)      |                                                                                    | 1788 |      |                                                                                   | 2381                                                                              |      |                                                                                    | 198                                                                                 |      |      | 998                                                                                 |      |
| Travel Time (s)         |                                                                                    | 40.6 |      |                                                                                   | 36.1                                                                              |      |                                                                                    | 3.9                                                                                 |      |      | 15.1                                                                                |      |
| Peak Hour Factor        | 0.90                                                                               | 0.90 | 0.90 | 0.97                                                                              | 0.85                                                                              | 0.88 | 0.79                                                                               | 0.91                                                                                | 0.90 | 0.90 | 0.93                                                                                | 0.72 |
| Heavy Vehicles (%)      | 2%                                                                                 | 2%   | 2%   | 5%                                                                                | 2%                                                                                | 2%   | 2%                                                                                 | 2%                                                                                  | 2%   | 2%   | 3%                                                                                  | 2%   |
| Adj. Flow (vph)         | 0                                                                                  | 0    | 0    | 114                                                                               | 116                                                                               | 116  | 514                                                                                | 337                                                                                 | 0    | 0    | 253                                                                                 | 183  |
| Shared Lane Traffic (%) |                                                                                    |      |      |                                                                                   |                                                                                   |      |                                                                                    |                                                                                     |      |      |                                                                                     |      |
| Lane Group Flow (vph)   | 0                                                                                  | 0    | 0    | 114                                                                               | 232                                                                               | 0    | 514                                                                                | 337                                                                                 | 0    | 0    | 436                                                                                 | 0    |
| Turn Type               |                                                                                    |      |      | Split                                                                             | NA                                                                                |      | Prot                                                                               | NA                                                                                  |      |      | NA                                                                                  |      |
| Protected Phases        |                                                                                    |      |      | 4                                                                                 | 4                                                                                 |      | 3 5                                                                                | 2 3                                                                                 |      |      | 6                                                                                   |      |
| Permitted Phases        |                                                                                    |      |      |                                                                                   |                                                                                   |      |                                                                                    |                                                                                     |      |      |                                                                                     |      |
| Detector Phase          |                                                                                    |      |      | 4                                                                                 | 4                                                                                 |      | 3 5                                                                                | 2 3                                                                                 |      |      | 6                                                                                   |      |
| Switch Phase            |                                                                                    |      |      |                                                                                   |                                                                                   |      |                                                                                    |                                                                                     |      |      |                                                                                     |      |
| Minimum Initial (s)     |                                                                                    |      |      | 7.0                                                                               | 7.0                                                                               |      |                                                                                    |                                                                                     |      |      | 12.0                                                                                |      |
| Minimum Split (s)       |                                                                                    |      |      | 13.7                                                                              | 13.7                                                                              |      |                                                                                    |                                                                                     |      |      | 28.4                                                                                |      |
| Total Split (s)         |                                                                                    |      |      | 22.0                                                                              | 22.0                                                                              |      |                                                                                    |                                                                                     |      |      | 34.0                                                                                |      |
| Total Split (%)         |                                                                                    |      |      | 18.3%                                                                             | 18.3%                                                                             |      |                                                                                    |                                                                                     |      |      | 28.3%                                                                               |      |
| Maximum Green (s)       |                                                                                    |      |      | 15.3                                                                              | 15.3                                                                              |      |                                                                                    |                                                                                     |      |      | 28.6                                                                                |      |
| Yellow Time (s)         |                                                                                    |      |      | 4.3                                                                               | 4.3                                                                               |      |                                                                                    |                                                                                     |      |      | 4.4                                                                                 |      |
| All-Red Time (s)        |                                                                                    |      |      | 2.4                                                                               | 2.4                                                                               |      |                                                                                    |                                                                                     |      |      | 1.0                                                                                 |      |
| Lost Time Adjust (s)    |                                                                                    |      |      | -1.7                                                                              | -1.7                                                                              |      |                                                                                    |                                                                                     |      |      | -0.4                                                                                |      |
| Total Lost Time (s)     |                                                                                    |      |      | 5.0                                                                               | 5.0                                                                               |      |                                                                                    |                                                                                     |      |      | 5.0                                                                                 |      |
| Lead/Lag                |                                                                                    |      |      | Lag                                                                               | Lag                                                                               |      |                                                                                    |                                                                                     |      |      | Lag                                                                                 |      |
| Lead-Lag Optimize?      |                                                                                    |      |      | Yes                                                                               | Yes                                                                               |      |                                                                                    |                                                                                     |      |      | Yes                                                                                 |      |
| Vehicle Extension (s)   |                                                                                    |      |      | 3.0                                                                               | 3.0                                                                               |      |                                                                                    |                                                                                     |      |      | 3.0                                                                                 |      |
| Recall Mode             |                                                                                    |      |      | None                                                                              | None                                                                              |      |                                                                                    |                                                                                     |      |      | C-Min                                                                               |      |
| Walk Time (s)           |                                                                                    |      |      |                                                                                   |                                                                                   |      |                                                                                    |                                                                                     |      |      | 7.0                                                                                 |      |
| Flash Dont Walk (s)     |                                                                                    |      |      |                                                                                   |                                                                                   |      |                                                                                    |                                                                                     |      |      | 16.0                                                                                |      |
| Pedestrian Calls (#/hr) |                                                                                    |      |      |                                                                                   |                                                                                   |      |                                                                                    |                                                                                     |      |      | 0                                                                                   |      |
| Act Effct Green (s)     |                                                                                    |      |      | 15.5                                                                              | 15.5                                                                              |      | 50.6                                                                               | 75.0                                                                                |      |      | 31.1                                                                                |      |
| Actuated g/C Ratio      |                                                                                    |      |      | 0.13                                                                              | 0.13                                                                              |      | 0.42                                                                               | 0.62                                                                                |      |      | 0.26                                                                                |      |
| v/c Ratio               |                                                                                    |      |      | 0.51                                                                              | 0.55                                                                              |      | 0.36                                                                               | 0.15                                                                                |      |      | 0.28                                                                                |      |
| Control Delay           |                                                                                    |      |      | 56.7                                                                              | 53.7                                                                              |      | 13.9                                                                               | 0.8                                                                                 |      |      | 38.3                                                                                |      |
| Queue Delay             |                                                                                    |      |      | 0.0                                                                               | 0.0                                                                               |      | 1.4                                                                                | 0.2                                                                                 |      |      | 0.0                                                                                 |      |

Lanes, Volumes, Timings  
4: Stallings Rd & Monroe Expressway WB Ramp

Stallings Farms TIA  
2020 Existing PM

| Lane Group              | Ø1   | Ø2    | Ø3   | Ø5   |
|-------------------------|------|-------|------|------|
| Lane Configurations     |      |       |      |      |
| Traffic Volume (vph)    |      |       |      |      |
| Future Volume (vph)     |      |       |      |      |
| Ideal Flow (vphpl)      |      |       |      |      |
| Storage Length (ft)     |      |       |      |      |
| Storage Lanes           |      |       |      |      |
| Taper Length (ft)       |      |       |      |      |
| Lane Util. Factor       |      |       |      |      |
| Frt                     |      |       |      |      |
| Flt Protected           |      |       |      |      |
| Satd. Flow (prot)       |      |       |      |      |
| Flt Permitted           |      |       |      |      |
| Satd. Flow (perm)       |      |       |      |      |
| Right Turn on Red       |      |       |      |      |
| Satd. Flow (RTOR)       |      |       |      |      |
| Link Speed (mph)        |      |       |      |      |
| Link Distance (ft)      |      |       |      |      |
| Travel Time (s)         |      |       |      |      |
| Peak Hour Factor        |      |       |      |      |
| Heavy Vehicles (%)      |      |       |      |      |
| Adj. Flow (vph)         |      |       |      |      |
| Shared Lane Traffic (%) |      |       |      |      |
| Lane Group Flow (vph)   |      |       |      |      |
| Turn Type               |      |       |      |      |
| Protected Phases        | 1    | 2     | 3    | 5    |
| Permitted Phases        |      |       |      |      |
| Detector Phase          |      |       |      |      |
| Switch Phase            |      |       |      |      |
| Minimum Initial (s)     | 7.0  | 10.0  | 7.0  | 7.0  |
| Minimum Split (s)       | 13.3 | 24.2  | 13.4 | 13.2 |
| Total Split (s)         | 15.0 | 33.0  | 50.0 | 14.0 |
| Total Split (%)         | 13%  | 28%   | 42%  | 12%  |
| Maximum Green (s)       | 8.7  | 27.8  | 43.6 | 7.8  |
| Yellow Time (s)         | 3.0  | 3.9   | 3.8  | 3.0  |
| All-Red Time (s)        | 3.3  | 1.3   | 2.6  | 3.2  |
| Lost Time Adjust (s)    |      |       |      |      |
| Total Lost Time (s)     |      |       |      |      |
| Lead/Lag                | Lag  | Lead  | Lead | Lead |
| Lead-Lag Optimize?      | Yes  | Yes   | Yes  | Yes  |
| Vehicle Extension (s)   | 3.0  | 3.0   | 3.0  | 3.0  |
| Recall Mode             | None | C-Min | None | None |
| Walk Time (s)           |      | 7.0   |      |      |
| Flash Dont Walk (s)     |      | 12.0  |      |      |
| Pedestrian Calls (#/hr) |      | 1     |      |      |
| Act Effct Green (s)     |      |       |      |      |
| Actuated g/C Ratio      |      |       |      |      |
| v/c Ratio               |      |       |      |      |
| Control Delay           |      |       |      |      |
| Queue Delay             |      |       |      |      |

Lanes, Volumes, Timings  
4: Stallings Rd & Monroe Expressway WB Ramp

Stallings Farms TIA  
2020 Existing PM

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Total Delay             |                                                                                   |                                                                                   |                                                                                   | 56.7                                                                              | 53.7                                                                              |                                                                                   | 15.3                                                                               | 1.0                                                                                 |                                                                                     |                                                                                     | 38.3                                                                                |                                                                                     |
| LOS                     |                                                                                   |                                                                                   |                                                                                   | E                                                                                 | D                                                                                 |                                                                                   | B                                                                                  | A                                                                                   |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |
| Approach Delay          |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 54.7                                                                              |                                                                                   |                                                                                    | 9.6                                                                                 |                                                                                     |                                                                                     | 38.3                                                                                |                                                                                     |
| Approach LOS            |                                                                                   |                                                                                   |                                                                                   |                                                                                   | D                                                                                 |                                                                                   |                                                                                    | A                                                                                   |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |
| Queue Length 50th (ft)  |                                                                                   |                                                                                   |                                                                                   | 83                                                                                | 88                                                                                |                                                                                   | 68                                                                                 | 3                                                                                   |                                                                                     |                                                                                     | 80                                                                                  |                                                                                     |
| Queue Length 95th (ft)  |                                                                                   |                                                                                   |                                                                                   | 143                                                                               | 123                                                                               |                                                                                   | 114                                                                                | 4                                                                                   |                                                                                     |                                                                                     | 115                                                                                 |                                                                                     |
| Internal Link Dist (ft) |                                                                                   | 1708                                                                              |                                                                                   |                                                                                   | 2301                                                                              |                                                                                   |                                                                                    | 118                                                                                 |                                                                                     |                                                                                     | 918                                                                                 |                                                                                     |
| Turn Bay Length (ft)    |                                                                                   |                                                                                   |                                                                                   | 325                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Base Capacity (vph)     |                                                                                   |                                                                                   |                                                                                   | 248                                                                               | 473                                                                               |                                                                                   | 1562                                                                               | 2376                                                                                |                                                                                     |                                                                                     | 1689                                                                                |                                                                                     |
| Starvation Cap Reductn  |                                                                                   |                                                                                   |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 814                                                                                | 1266                                                                                |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Spillback Cap Reductn   |                                                                                   |                                                                                   |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                  | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Storage Cap Reductn     |                                                                                   |                                                                                   |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                  | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Reduced v/c Ratio       |                                                                                   |                                                                                   |                                                                                   | 0.46                                                                              | 0.49                                                                              |                                                                                   | 0.69                                                                               | 0.30                                                                                |                                                                                     |                                                                                     | 0.26                                                                                |                                                                                     |

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.73

Intersection Signal Delay: 26.8

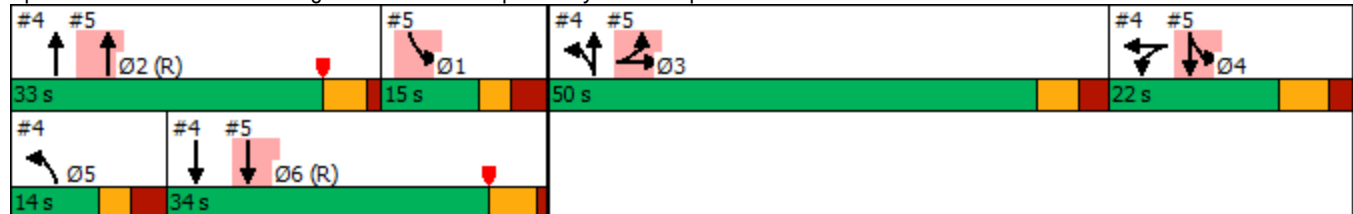
Intersection LOS: C

Intersection Capacity Utilization 61.1%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 4: Stallings Rd & Monroe Expressway WB Ramp



Lanes, Volumes, Timings  
4: Stallings Rd & Monroe Expressway WB Ramp

Stallings Farms TIA  
2020 Existing PM

| Lane Group              | Ø1 | Ø2 | Ø3 | Ø5 |
|-------------------------|----|----|----|----|
| Total Delay             |    |    |    |    |
| LOS                     |    |    |    |    |
| Approach Delay          |    |    |    |    |
| Approach LOS            |    |    |    |    |
| Queue Length 50th (ft)  |    |    |    |    |
| Queue Length 95th (ft)  |    |    |    |    |
| Internal Link Dist (ft) |    |    |    |    |
| Turn Bay Length (ft)    |    |    |    |    |
| Base Capacity (vph)     |    |    |    |    |
| Starvation Cap Reductn  |    |    |    |    |
| Spillback Cap Reductn   |    |    |    |    |
| Storage Cap Reductn     |    |    |    |    |
| Reduced v/c Ratio       |    |    |    |    |
| Intersection Summary    |    |    |    |    |

Lanes, Volumes, Timings  
5: Stallings Rd & Monroe Expressway EB Ramp

Stallings Farms TIA

2020 Existing PM

|                         |  |       |      |      |      |      |      |       |      |       |      |      |
|-------------------------|------------------------------------------------------------------------------------|-------|------|------|------|------|------|-------|------|-------|------|------|
| Lane Group              | EBL                                                                                | EBT   | EBR  | WBL  | WBT  | WBR  | NBL  | NBT   | NBR  | SBL   | SBT  | SBR  |
| Lane Configurations     |                                                                                    | ↔↔    |      |      |      |      |      | ↑↑↑↑  |      | ↔↔    | ↑↑   |      |
| Traffic Volume (vph)    | 224                                                                                | 93    | 306  | 0    | 0    | 0    | 0    | 489   | 87   | 101   | 245  | 0    |
| Future Volume (vph)     | 224                                                                                | 93    | 306  | 0    | 0    | 0    | 0    | 489   | 87   | 101   | 245  | 0    |
| Ideal Flow (vphpl)      | 1900                                                                               | 1900  | 1900 | 1900 | 1900 | 1900 | 1900 | 1900  | 1900 | 1900  | 1900 | 1900 |
| Storage Length (ft)     | 175                                                                                |       | 325  | 0    |      | 0    | 425  |       | 0    | 0     |      | 0    |
| Storage Lanes           | 0                                                                                  |       | 0    | 0    |      | 0    | 2    |       | 0    | 2     |      | 0    |
| Taper Length (ft)       | 100                                                                                |       |      | 25   |      |      | 100  |       |      | 25    |      |      |
| Lane Util. Factor       | 0.95                                                                               | 0.95  | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 0.86  | 0.86 | 0.97  | 0.95 | 1.00 |
| Ped Bike Factor         |                                                                                    | 1.00  |      |      |      |      |      | 1.00  |      | 1.00  |      |      |
| Frt                     |                                                                                    | 0.933 |      |      |      |      |      | 0.976 |      |       |      |      |
| Flt Protected           |                                                                                    | 0.980 |      |      |      |      |      |       |      | 0.950 |      |      |
| Satd. Flow (prot)       | 0                                                                                  | 3208  | 0    | 0    | 0    | 0    | 0    | 6240  | 0    | 3433  | 3471 | 0    |
| Flt Permitted           |                                                                                    | 0.980 |      |      |      |      |      |       |      | 0.950 |      |      |
| Satd. Flow (perm)       | 0                                                                                  | 3207  | 0    | 0    | 0    | 0    | 0    | 6240  | 0    | 3429  | 3471 | 0    |
| Right Turn on Red       |                                                                                    |       | No   |      |      | No   |      |       | No   |       |      | No   |
| Satd. Flow (RTOR)       |                                                                                    |       |      |      |      |      |      |       |      |       |      |      |
| Link Speed (mph)        |                                                                                    | 35    |      |      | 30   |      |      | 35    |      |       | 35   |      |
| Link Distance (ft)      |                                                                                    | 1776  |      |      | 891  |      |      | 1501  |      |       | 198  |      |
| Travel Time (s)         |                                                                                    | 34.6  |      |      | 20.3 |      |      | 29.2  |      |       | 3.9  |      |
| Confl. Peds. (#/hr)     | 1                                                                                  |       |      |      |      | 1    |      |       | 1    | 1     |      |      |
| Peak Hour Factor        | 0.66                                                                               | 0.73  | 0.82 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90  | 0.84 | 0.77  | 0.91 | 0.90 |
| Heavy Vehicles (%)      | 2%                                                                                 | 2%    | 4%   | 2%   | 2%   | 2%   | 2%   | 2%    | 2%   | 2%    | 4%   | 2%   |
| Adj. Flow (vph)         | 339                                                                                | 127   | 373  | 0    | 0    | 0    | 0    | 543   | 104  | 131   | 269  | 0    |
| Shared Lane Traffic (%) |                                                                                    |       |      |      |      |      |      |       |      |       |      |      |
| Lane Group Flow (vph)   | 0                                                                                  | 839   | 0    | 0    | 0    | 0    | 0    | 647   | 0    | 131   | 269  | 0    |
| Turn Type               | Split                                                                              | NA    |      |      |      |      |      | NA    |      | Prot  | NA   |      |
| Protected Phases        | 3                                                                                  | 3     |      |      |      |      |      | 2     |      | 1 4   | 4 6  |      |
| Permitted Phases        |                                                                                    |       |      |      |      |      |      |       |      |       |      |      |
| Detector Phase          | 3                                                                                  | 3     |      |      |      |      |      | 2     |      | 1 4   | 4 6  |      |
| Switch Phase            |                                                                                    |       |      |      |      |      |      |       |      |       |      |      |
| Minimum Initial (s)     | 7.0                                                                                | 7.0   |      |      |      |      |      | 10.0  |      |       |      |      |
| Minimum Split (s)       | 13.4                                                                               | 13.4  |      |      |      |      |      | 24.2  |      |       |      |      |
| Total Split (s)         | 50.0                                                                               | 50.0  |      |      |      |      |      | 33.0  |      |       |      |      |
| Total Split (%)         | 41.7%                                                                              | 41.7% |      |      |      |      |      | 27.5% |      |       |      |      |
| Maximum Green (s)       | 43.6                                                                               | 43.6  |      |      |      |      |      | 27.8  |      |       |      |      |
| Yellow Time (s)         | 3.8                                                                                | 3.8   |      |      |      |      |      | 3.9   |      |       |      |      |
| All-Red Time (s)        | 2.6                                                                                | 2.6   |      |      |      |      |      | 1.3   |      |       |      |      |
| Lost Time Adjust (s)    |                                                                                    | -1.4  |      |      |      |      |      | -0.2  |      |       |      |      |
| Total Lost Time (s)     |                                                                                    | 5.0   |      |      |      |      |      | 5.0   |      |       |      |      |
| Lead/Lag                | Lead                                                                               | Lead  |      |      |      |      |      | Lead  |      |       |      |      |
| Lead-Lag Optimize?      | Yes                                                                                | Yes   |      |      |      |      |      | Yes   |      |       |      |      |
| Vehicle Extension (s)   | 3.0                                                                                | 3.0   |      |      |      |      |      | 3.0   |      |       |      |      |
| Recall Mode             | None                                                                               | None  |      |      |      |      |      | C-Min |      |       |      |      |
| Walk Time (s)           |                                                                                    |       |      |      |      |      |      | 7.0   |      |       |      |      |
| Flash Dont Walk (s)     |                                                                                    |       |      |      |      |      |      | 12.0  |      |       |      |      |
| Pedestrian Calls (#/hr) |                                                                                    |       |      |      |      |      |      | 1     |      |       |      |      |
| Act Effct Green (s)     |                                                                                    | 42.8  |      |      |      |      |      | 32.6  |      | 22.0  | 43.2 |      |
| Actuated g/C Ratio      |                                                                                    | 0.36  |      |      |      |      |      | 0.27  |      | 0.18  | 0.36 |      |
| v/c Ratio               |                                                                                    | 0.73  |      |      |      |      |      | 0.38  |      | 0.21  | 0.22 |      |



Lanes, Volumes, Timings  
5: Stallings Rd & Monroe Expressway EB Ramp

Stallings Farms TIA  
2020 Existing PM

| Lane Group              | Ø1   | Ø4   | Ø5   | Ø6    |
|-------------------------|------|------|------|-------|
| Lane Configurations     |      |      |      |       |
| Traffic Volume (vph)    |      |      |      |       |
| Future Volume (vph)     |      |      |      |       |
| Ideal Flow (vphpl)      |      |      |      |       |
| Storage Length (ft)     |      |      |      |       |
| Storage Lanes           |      |      |      |       |
| Taper Length (ft)       |      |      |      |       |
| Lane Util. Factor       |      |      |      |       |
| Ped Bike Factor         |      |      |      |       |
| Frt                     |      |      |      |       |
| Flt Protected           |      |      |      |       |
| Satd. Flow (prot)       |      |      |      |       |
| Flt Permitted           |      |      |      |       |
| Satd. Flow (perm)       |      |      |      |       |
| Right Turn on Red       |      |      |      |       |
| Satd. Flow (RTOR)       |      |      |      |       |
| Link Speed (mph)        |      |      |      |       |
| Link Distance (ft)      |      |      |      |       |
| Travel Time (s)         |      |      |      |       |
| Confl. Peds. (#/hr)     |      |      |      |       |
| Peak Hour Factor        |      |      |      |       |
| Heavy Vehicles (%)      |      |      |      |       |
| Adj. Flow (vph)         |      |      |      |       |
| Shared Lane Traffic (%) |      |      |      |       |
| Lane Group Flow (vph)   |      |      |      |       |
| Turn Type               |      |      |      |       |
| Protected Phases        | 1    | 4    | 5    | 6     |
| Permitted Phases        |      |      |      |       |
| Detector Phase          |      |      |      |       |
| Switch Phase            |      |      |      |       |
| Minimum Initial (s)     | 7.0  | 7.0  | 7.0  | 12.0  |
| Minimum Split (s)       | 13.3 | 13.7 | 13.2 | 28.4  |
| Total Split (s)         | 15.0 | 22.0 | 14.0 | 34.0  |
| Total Split (%)         | 13%  | 18%  | 12%  | 28%   |
| Maximum Green (s)       | 8.7  | 15.3 | 7.8  | 28.6  |
| Yellow Time (s)         | 3.0  | 4.3  | 3.0  | 4.4   |
| All-Red Time (s)        | 3.3  | 2.4  | 3.2  | 1.0   |
| Lost Time Adjust (s)    |      |      |      |       |
| Total Lost Time (s)     |      |      |      |       |
| Lead/Lag                | Lag  | Lag  | Lead | Lag   |
| Lead-Lag Optimize?      | Yes  | Yes  | Yes  | Yes   |
| Vehicle Extension (s)   | 3.0  | 3.0  | 3.0  | 3.0   |
| Recall Mode             | None | None | None | C-Min |
| Walk Time (s)           |      |      |      | 7.0   |
| Flash Dont Walk (s)     |      |      |      | 16.0  |
| Pedestrian Calls (#/hr) |      |      |      | 0     |
| Act Effct Green (s)     |      |      |      |       |
| Actuated g/C Ratio      |      |      |      |       |
| v/c Ratio               |      |      |      |       |

Lanes, Volumes, Timings  
5: Stallings Rd & Monroe Expressway EB Ramp

Stallings Farms TIA

2020 Existing PM

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Control Delay           |                                                                                   | 37.2                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 38.0                                                                                |                                                                                     | 11.1                                                                                | 3.7                                                                                 |                                                                                     |
| Queue Delay             |                                                                                   | 0.1                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 0.0                                                                                 |                                                                                     | 0.1                                                                                 | 0.1                                                                                 |                                                                                     |
| Total Delay             |                                                                                   | 37.3                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 38.0                                                                                |                                                                                     | 11.3                                                                                | 3.8                                                                                 |                                                                                     |
| LOS                     |                                                                                   | D                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    | D                                                                                   |                                                                                     | B                                                                                   | A                                                                                   |                                                                                     |
| Approach Delay          |                                                                                   | 37.3                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 38.0                                                                                |                                                                                     |                                                                                     | 6.3                                                                                 |                                                                                     |
| Approach LOS            |                                                                                   | D                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    | D                                                                                   |                                                                                     |                                                                                     | A                                                                                   |                                                                                     |
| Queue Length 50th (ft)  |                                                                                   | 295                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 119                                                                                 |                                                                                     | 32                                                                                  | 7                                                                                   |                                                                                     |
| Queue Length 95th (ft)  |                                                                                   | 241                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 167                                                                                 |                                                                                     | 24                                                                                  | 11                                                                                  |                                                                                     |
| Internal Link Dist (ft) |                                                                                   | 1696                                                                              |                                                                                   |                                                                                   | 811                                                                               |                                                                                   |                                                                                    | 1421                                                                                |                                                                                     |                                                                                     | 118                                                                                 |                                                                                     |
| Turn Bay Length (ft)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Base Capacity (vph)     |                                                                                   | 1250                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 1779                                                                                |                                                                                     | 715                                                                                 | 1386                                                                                |                                                                                     |
| Starvation Cap Reductn  |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 0                                                                                   |                                                                                     | 165                                                                                 | 396                                                                                 |                                                                                     |
| Spillback Cap Reductn   |                                                                                   | 20                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 130                                                                                 |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     |
| Storage Cap Reductn     |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     |
| Reduced v/c Ratio       |                                                                                   | 0.68                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 0.39                                                                                |                                                                                     | 0.24                                                                                | 0.27                                                                                |                                                                                     |

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.73

Intersection Signal Delay: 31.0

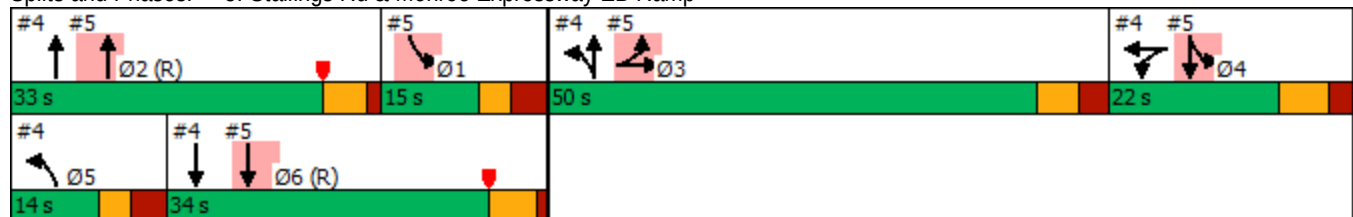
Intersection LOS: C

Intersection Capacity Utilization 61.1%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 5: Stallings Rd & Monroe Expressway EB Ramp



| Lane Group              | Ø1 | Ø4 | Ø5 | Ø6 |
|-------------------------|----|----|----|----|
| Control Delay           |    |    |    |    |
| Queue Delay             |    |    |    |    |
| Total Delay             |    |    |    |    |
| LOS                     |    |    |    |    |
| Approach Delay          |    |    |    |    |
| Approach LOS            |    |    |    |    |
| Queue Length 50th (ft)  |    |    |    |    |
| Queue Length 95th (ft)  |    |    |    |    |
| Internal Link Dist (ft) |    |    |    |    |
| Turn Bay Length (ft)    |    |    |    |    |
| Base Capacity (vph)     |    |    |    |    |
| Starvation Cap Reductn  |    |    |    |    |
| Spillback Cap Reductn   |    |    |    |    |
| Storage Cap Reductn     |    |    |    |    |
| Reduced v/c Ratio       |    |    |    |    |
| Intersection Summary    |    |    |    |    |

Lanes, Volumes, Timings  
6: Stallings Rd & Matthews-Indian Trail Rd

Stallings Farms TIA  
2020 Existing PM

|                         |  |                                                                                   |      |                                                                                   |                                                                                   |      |                                                                                    |                                                                                     |      |                                                                                     |                                                                                     |      |
|-------------------------|------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------|
| Lane Group              | EBL                                                                                | EBT                                                                               | EBR  | WBL                                                                               | WBT                                                                               | WBR  | NBL                                                                                | NBT                                                                                 | NBR  | SBL                                                                                 | SBT                                                                                 | SBR  |
| Lane Configurations     |   |  |      |  |  |      |  |  |      |  |  |      |
| Traffic Volume (vph)    | 21                                                                                 | 54                                                                                | 104  | 45                                                                                | 25                                                                                | 91   | 29                                                                                 | 462                                                                                 | 42   | 71                                                                                  | 451                                                                                 | 30   |
| Future Volume (vph)     | 21                                                                                 | 54                                                                                | 104  | 45                                                                                | 25                                                                                | 91   | 29                                                                                 | 462                                                                                 | 42   | 71                                                                                  | 451                                                                                 | 30   |
| Ideal Flow (vphpl)      | 1900                                                                               | 1900                                                                              | 1900 | 1900                                                                              | 1900                                                                              | 1900 | 1900                                                                               | 1900                                                                                | 1900 | 1900                                                                                | 1900                                                                                | 1900 |
| Storage Length (ft)     | 140                                                                                |                                                                                   | 0    | 140                                                                               |                                                                                   | 0    | 120                                                                                |                                                                                     | 0    | 110                                                                                 |                                                                                     | 0    |
| Storage Lanes           | 1                                                                                  |                                                                                   | 0    | 1                                                                                 |                                                                                   | 0    | 1                                                                                  |                                                                                     | 0    | 1                                                                                   |                                                                                     | 0    |
| Taper Length (ft)       | 100                                                                                |                                                                                   |      | 75                                                                                |                                                                                   |      | 100                                                                                |                                                                                     |      | 100                                                                                 |                                                                                     |      |
| Lane Util. Factor       | 1.00                                                                               | 1.00                                                                              | 1.00 | 1.00                                                                              | 1.00                                                                              | 1.00 | 1.00                                                                               | 1.00                                                                                | 1.00 | 1.00                                                                                | 1.00                                                                                | 1.00 |
| Ped Bike Factor         |                                                                                    |                                                                                   |      |                                                                                   |                                                                                   |      |                                                                                    | 1.00                                                                                |      | 1.00                                                                                |                                                                                     |      |
| Frt                     |                                                                                    | 0.896                                                                             |      |                                                                                   | 0.882                                                                             |      |                                                                                    | 0.987                                                                               |      |                                                                                     | 0.987                                                                               |      |
| Flt Protected           | 0.950                                                                              |                                                                                   |      | 0.950                                                                             |                                                                                   |      | 0.950                                                                              |                                                                                     |      | 0.950                                                                               |                                                                                     |      |
| Satd. Flow (prot)       | 1770                                                                               | 1669                                                                              | 0    | 1770                                                                              | 1643                                                                              | 0    | 1770                                                                               | 1823                                                                                | 0    | 1770                                                                                | 1805                                                                                | 0    |
| Flt Permitted           | 0.628                                                                              |                                                                                   |      | 0.620                                                                             |                                                                                   |      | 0.427                                                                              |                                                                                     |      | 0.369                                                                               |                                                                                     |      |
| Satd. Flow (perm)       | 1170                                                                               | 1669                                                                              | 0    | 1155                                                                              | 1643                                                                              | 0    | 795                                                                                | 1823                                                                                | 0    | 687                                                                                 | 1805                                                                                | 0    |
| Right Turn on Red       |                                                                                    |                                                                                   | No   |                                                                                   |                                                                                   | No   |                                                                                    |                                                                                     | No   |                                                                                     |                                                                                     | No   |
| Satd. Flow (RTOR)       |                                                                                    |                                                                                   |      |                                                                                   |                                                                                   |      |                                                                                    |                                                                                     |      |                                                                                     |                                                                                     |      |
| Link Speed (mph)        |                                                                                    | 45                                                                                |      |                                                                                   | 35                                                                                |      |                                                                                    | 35                                                                                  |      |                                                                                     | 35                                                                                  |      |
| Link Distance (ft)      |                                                                                    | 2002                                                                              |      |                                                                                   | 586                                                                               |      |                                                                                    | 1248                                                                                |      |                                                                                     | 1501                                                                                |      |
| Travel Time (s)         |                                                                                    | 30.3                                                                              |      |                                                                                   | 11.4                                                                              |      |                                                                                    | 24.3                                                                                |      |                                                                                     | 29.2                                                                                |      |
| Confl. Peds. (#/hr)     |                                                                                    |                                                                                   |      |                                                                                   |                                                                                   |      |                                                                                    |                                                                                     | 1    | 1                                                                                   |                                                                                     |      |
| Peak Hour Factor        | 0.75                                                                               | 0.79                                                                              | 0.68 | 0.63                                                                              | 0.57                                                                              | 0.56 | 0.60                                                                               | 0.88                                                                                | 0.88 | 0.66                                                                                | 0.98                                                                                | 0.68 |
| Heavy Vehicles (%)      | 2%                                                                                 | 2%                                                                                | 2%   | 2%                                                                                | 2%                                                                                | 2%   | 2%                                                                                 | 2%                                                                                  | 10%  | 2%                                                                                  | 4%                                                                                  | 3%   |
| Adj. Flow (vph)         | 28                                                                                 | 68                                                                                | 153  | 71                                                                                | 44                                                                                | 163  | 48                                                                                 | 525                                                                                 | 48   | 108                                                                                 | 460                                                                                 | 44   |
| Shared Lane Traffic (%) |                                                                                    |                                                                                   |      |                                                                                   |                                                                                   |      |                                                                                    |                                                                                     |      |                                                                                     |                                                                                     |      |
| Lane Group Flow (vph)   | 28                                                                                 | 221                                                                               | 0    | 71                                                                                | 207                                                                               | 0    | 48                                                                                 | 573                                                                                 | 0    | 108                                                                                 | 504                                                                                 | 0    |
| Turn Type               | Perm                                                                               | NA                                                                                |      | Perm                                                                              | NA                                                                                |      | Perm                                                                               | NA                                                                                  |      | Perm                                                                                | NA                                                                                  |      |
| Protected Phases        |                                                                                    | 4                                                                                 |      |                                                                                   | 8                                                                                 |      |                                                                                    | 2                                                                                   |      |                                                                                     | 6                                                                                   |      |
| Permitted Phases        | 4                                                                                  |                                                                                   |      | 8                                                                                 |                                                                                   |      | 2                                                                                  |                                                                                     |      | 6                                                                                   |                                                                                     |      |
| Detector Phase          | 4                                                                                  | 4                                                                                 |      | 8                                                                                 | 8                                                                                 |      | 2                                                                                  | 2                                                                                   |      | 6                                                                                   | 6                                                                                   |      |
| Switch Phase            |                                                                                    |                                                                                   |      |                                                                                   |                                                                                   |      |                                                                                    |                                                                                     |      |                                                                                     |                                                                                     |      |
| Minimum Initial (s)     | 7.0                                                                                | 7.0                                                                               |      | 7.0                                                                               | 7.0                                                                               |      | 10.0                                                                               | 10.0                                                                                |      | 10.0                                                                                | 10.0                                                                                |      |
| Minimum Split (s)       | 12.3                                                                               | 12.3                                                                              |      | 12.7                                                                              | 12.7                                                                              |      | 34.4                                                                               | 34.4                                                                                |      | 15.3                                                                                | 15.3                                                                                |      |
| Total Split (s)         | 22.0                                                                               | 22.0                                                                              |      | 22.0                                                                              | 22.0                                                                              |      | 38.0                                                                               | 38.0                                                                                |      | 38.0                                                                                | 38.0                                                                                |      |
| Total Split (%)         | 36.7%                                                                              | 36.7%                                                                             |      | 36.7%                                                                             | 36.7%                                                                             |      | 63.3%                                                                              | 63.3%                                                                               |      | 63.3%                                                                               | 63.3%                                                                               |      |
| Maximum Green (s)       | 16.7                                                                               | 16.7                                                                              |      | 16.3                                                                              | 16.3                                                                              |      | 32.6                                                                               | 32.6                                                                                |      | 32.7                                                                                | 32.7                                                                                |      |
| Yellow Time (s)         | 3.6                                                                                | 3.6                                                                               |      | 4.0                                                                               | 4.0                                                                               |      | 3.8                                                                                | 3.8                                                                                 |      | 3.6                                                                                 | 3.6                                                                                 |      |
| All-Red Time (s)        | 1.7                                                                                | 1.7                                                                               |      | 1.7                                                                               | 1.7                                                                               |      | 1.6                                                                                | 1.6                                                                                 |      | 1.7                                                                                 | 1.7                                                                                 |      |
| Lost Time Adjust (s)    | -0.3                                                                               | -0.3                                                                              |      | -0.7                                                                              | -0.7                                                                              |      | -0.4                                                                               | -0.4                                                                                |      | -0.3                                                                                | -0.3                                                                                |      |
| Total Lost Time (s)     | 5.0                                                                                | 5.0                                                                               |      | 5.0                                                                               | 5.0                                                                               |      | 5.0                                                                                | 5.0                                                                                 |      | 5.0                                                                                 | 5.0                                                                                 |      |
| Lead/Lag                |                                                                                    |                                                                                   |      |                                                                                   |                                                                                   |      |                                                                                    |                                                                                     |      |                                                                                     |                                                                                     |      |
| Lead-Lag Optimize?      |                                                                                    |                                                                                   |      |                                                                                   |                                                                                   |      |                                                                                    |                                                                                     |      |                                                                                     |                                                                                     |      |
| Vehicle Extension (s)   | 2.0                                                                                | 2.0                                                                               |      | 2.0                                                                               | 2.0                                                                               |      | 3.0                                                                                | 3.0                                                                                 |      | 3.0                                                                                 | 3.0                                                                                 |      |
| Recall Mode             | None                                                                               | None                                                                              |      | None                                                                              | None                                                                              |      | Min                                                                                | Min                                                                                 |      | Min                                                                                 | Min                                                                                 |      |
| Walk Time (s)           |                                                                                    |                                                                                   |      |                                                                                   |                                                                                   |      | 7.0                                                                                | 7.0                                                                                 |      |                                                                                     |                                                                                     |      |
| Flash Dont Walk (s)     |                                                                                    |                                                                                   |      |                                                                                   |                                                                                   |      | 22.0                                                                               | 22.0                                                                                |      |                                                                                     |                                                                                     |      |
| Pedestrian Calls (#/hr) |                                                                                    |                                                                                   |      |                                                                                   |                                                                                   |      | 1                                                                                  | 1                                                                                   |      |                                                                                     |                                                                                     |      |
| Act Effct Green (s)     | 10.9                                                                               | 10.9                                                                              |      | 11.0                                                                              | 11.0                                                                              |      | 22.4                                                                               | 22.4                                                                                |      | 22.4                                                                                | 22.4                                                                                |      |
| Actuated g/C Ratio      | 0.28                                                                               | 0.28                                                                              |      | 0.29                                                                              | 0.29                                                                              |      | 0.58                                                                               | 0.58                                                                                |      | 0.58                                                                                | 0.58                                                                                |      |
| v/c Ratio               | 0.08                                                                               | 0.47                                                                              |      | 0.21                                                                              | 0.44                                                                              |      | 0.10                                                                               | 0.54                                                                                |      | 0.27                                                                                | 0.48                                                                                |      |

Lanes, Volumes, Timings  
6: Stallings Rd & Matthews-Indian Trail Rd

Stallings Farms TIA  
2020 Existing PM

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Control Delay           | 13.9                                                                              | 17.3                                                                              |                                                                                   | 15.1                                                                              | 17.0                                                                              |                                                                                   | 7.1                                                                                | 10.2                                                                                |                                                                                     | 9.3                                                                                 | 9.4                                                                                 |                                                                                     |
| Queue Delay             | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                                | 0.0                                                                                 |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Delay             | 13.9                                                                              | 17.3                                                                              |                                                                                   | 15.1                                                                              | 17.0                                                                              |                                                                                   | 7.1                                                                                | 10.2                                                                                |                                                                                     | 9.3                                                                                 | 9.4                                                                                 |                                                                                     |
| LOS                     | B                                                                                 | B                                                                                 |                                                                                   | B                                                                                 | B                                                                                 |                                                                                   | A                                                                                  | B                                                                                   |                                                                                     | A                                                                                   | A                                                                                   |                                                                                     |
| Approach Delay          |                                                                                   | 17.0                                                                              |                                                                                   |                                                                                   | 16.5                                                                              |                                                                                   |                                                                                    | 9.9                                                                                 |                                                                                     |                                                                                     | 9.4                                                                                 |                                                                                     |
| Approach LOS            |                                                                                   | B                                                                                 |                                                                                   |                                                                                   | B                                                                                 |                                                                                   |                                                                                    | A                                                                                   |                                                                                     |                                                                                     | A                                                                                   |                                                                                     |
| Queue Length 50th (ft)  | 4                                                                                 | 36                                                                                |                                                                                   | 11                                                                                | 34                                                                                |                                                                                   | 5                                                                                  | 80                                                                                  |                                                                                     | 12                                                                                  | 67                                                                                  |                                                                                     |
| Queue Length 95th (ft)  | 19                                                                                | 99                                                                                |                                                                                   | 31                                                                                | 63                                                                                |                                                                                   | 14                                                                                 | 198                                                                                 |                                                                                     | 30                                                                                  | 173                                                                                 |                                                                                     |
| Internal Link Dist (ft) |                                                                                   | 1922                                                                              |                                                                                   |                                                                                   | 506                                                                               |                                                                                   |                                                                                    | 1168                                                                                |                                                                                     |                                                                                     | 1421                                                                                |                                                                                     |
| Turn Bay Length (ft)    | 140                                                                               |                                                                                   |                                                                                   | 140                                                                               |                                                                                   |                                                                                   | 120                                                                                |                                                                                     |                                                                                     | 110                                                                                 |                                                                                     |                                                                                     |
| Base Capacity (vph)     | 570                                                                               | 814                                                                               |                                                                                   | 563                                                                               | 801                                                                               |                                                                                   | 672                                                                                | 1541                                                                                |                                                                                     | 581                                                                                 | 1526                                                                                |                                                                                     |
| Starvation Cap Reductn  | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                  | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     |
| Spillback Cap Reductn   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                  | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     |
| Storage Cap Reductn     | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                  | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     |
| Reduced v/c Ratio       | 0.05                                                                              | 0.27                                                                              |                                                                                   | 0.13                                                                              | 0.26                                                                              |                                                                                   | 0.07                                                                               | 0.37                                                                                |                                                                                     | 0.19                                                                                | 0.33                                                                                |                                                                                     |

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 38.5

Natural Cycle: 50

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.54

Intersection Signal Delay: 11.8

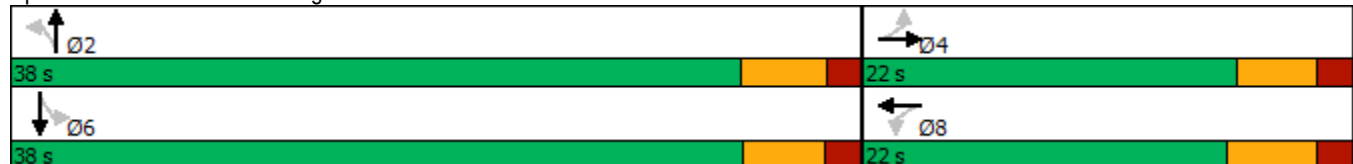
Intersection LOS: B

Intersection Capacity Utilization 66.9%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 6: Stallings Rd & Matthews-Indian Trail Rd



Lanes, Volumes, Timings  
7: Mt. Harmony Church Rd & Stevens Mill Rd

Stallings Farms TIA  
2020 Existing PM

|                         |  |       |      |       |       |      |      |       |      |       |       |      |
|-------------------------|------------------------------------------------------------------------------------|-------|------|-------|-------|------|------|-------|------|-------|-------|------|
| Lane Group              | EBL                                                                                | EBT   | EBR  | WBL   | WBT   | WBR  | NBL  | NBT   | NBR  | SBL   | SBT   | SBR  |
| Lane Configurations     |                                                                                    | ↕     |      | ↗     | ↖     |      |      | ↕     |      | ↗     | ↖     |      |
| Traffic Volume (vph)    | 9                                                                                  | 5     | 4    | 6     | 4     | 37   | 4    | 96    | 56   | 98    | 35    | 4    |
| Future Volume (vph)     | 9                                                                                  | 5     | 4    | 6     | 4     | 37   | 4    | 96    | 56   | 98    | 35    | 4    |
| Ideal Flow (vphpl)      | 1900                                                                               | 1900  | 1900 | 1900  | 1900  | 1900 | 1900 | 1900  | 1900 | 1900  | 1900  | 1900 |
| Storage Length (ft)     | 0                                                                                  |       | 0    | 125   |       | 0    | 0    |       | 0    | 150   |       | 0    |
| Storage Lanes           | 0                                                                                  |       | 0    | 1     |       | 0    | 0    |       | 0    | 1     |       | 0    |
| Taper Length (ft)       | 25                                                                                 |       |      | 125   |       |      | 25   |       |      | 100   |       |      |
| Lane Util. Factor       | 1.00                                                                               | 1.00  | 1.00 | 1.00  | 1.00  | 1.00 | 1.00 | 1.00  | 1.00 | 1.00  | 1.00  | 1.00 |
| Frt                     |                                                                                    | 0.955 |      |       | 0.893 |      |      | 0.948 |      |       | 0.957 |      |
| Flt Protected           |                                                                                    | 0.984 |      | 0.950 |       |      |      | 0.997 |      | 0.950 |       |      |
| Satd. Flow (prot)       | 0                                                                                  | 1557  | 0    | 1770  | 1652  | 0    | 0    | 1700  | 0    | 1770  | 1770  | 0    |
| Flt Permitted           |                                                                                    | 0.984 |      | 0.950 |       |      |      | 0.997 |      | 0.950 |       |      |
| Satd. Flow (perm)       | 0                                                                                  | 1557  | 0    | 1770  | 1652  | 0    | 0    | 1700  | 0    | 1770  | 1770  | 0    |
| Link Speed (mph)        |                                                                                    | 35    |      |       | 35    |      |      | 35    |      |       | 35    |      |
| Link Distance (ft)      |                                                                                    | 831   |      |       | 703   |      |      | 907   |      |       | 461   |      |
| Travel Time (s)         |                                                                                    | 16.2  |      |       | 13.7  |      |      | 17.7  |      |       | 9.0   |      |
| Peak Hour Factor        | 0.56                                                                               | 0.31  | 0.25 | 0.38  | 0.25  | 0.93 | 0.38 | 0.86  | 0.74 | 0.77  | 0.88  | 0.25 |
| Heavy Vehicles (%)      | 2%                                                                                 | 40%   | 2%   | 2%    | 2%    | 3%   | 33%  | 2%    | 7%   | 2%    | 3%    | 2%   |
| Adj. Flow (vph)         | 16                                                                                 | 16    | 16   | 16    | 16    | 40   | 11   | 112   | 76   | 127   | 40    | 16   |
| Shared Lane Traffic (%) |                                                                                    |       |      |       |       |      |      |       |      |       |       |      |
| Lane Group Flow (vph)   | 0                                                                                  | 48    | 0    | 16    | 56    | 0    | 0    | 199   | 0    | 127   | 56    | 0    |
| Sign Control            |                                                                                    | Stop  |      |       | Stop  |      |      | Free  |      |       | Free  |      |

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 31.8% ICU Level of Service A

Analysis Period (min) 15



# HCM Unsignalized Intersection Capacity Analysis

## 7: Mt. Harmony Church Rd & Stevens Mill Rd

Stallings Farms TIA  
2020 Existing PM

|                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                                   |  |  |  |  |  |  |  |  |  |  |  |  |
| Movement                          | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |                                                                                   |  |                                                                                   |  |  |                                                                                   |                                                                                    |  |                                                                                     |  |  |                                                                                     |
| Traffic Volume (veh/h)            | 9                                                                                 | 5                                                                                 | 4                                                                                 | 6                                                                                 | 4                                                                                 | 37                                                                                | 4                                                                                  | 96                                                                                  | 56                                                                                  | 98                                                                                  | 35                                                                                  | 4                                                                                   |
| Future Volume (Veh/h)             | 9                                                                                 | 5                                                                                 | 4                                                                                 | 6                                                                                 | 4                                                                                 | 37                                                                                | 4                                                                                  | 96                                                                                  | 56                                                                                  | 98                                                                                  | 35                                                                                  | 4                                                                                   |
| Sign Control                      | Stop                                                                              |                                                                                   |                                                                                   |                                                                                   | Stop                                                                              |                                                                                   |                                                                                    |                                                                                     | Free                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Grade                             | 0%                                                                                |                                                                                   |                                                                                   |                                                                                   | 0%                                                                                |                                                                                   |                                                                                    |                                                                                     | 0%                                                                                  |                                                                                     |                                                                                     |                                                                                     |
| Peak Hour Factor                  | 0.56                                                                              | 0.31                                                                              | 0.25                                                                              | 0.38                                                                              | 0.25                                                                              | 0.93                                                                              | 0.38                                                                               | 0.86                                                                                | 0.74                                                                                | 0.77                                                                                | 0.88                                                                                | 0.25                                                                                |
| Hourly flow rate (vph)            | 16                                                                                | 16                                                                                | 16                                                                                | 16                                                                                | 16                                                                                | 40                                                                                | 11                                                                                 | 112                                                                                 | 76                                                                                  | 127                                                                                 | 40                                                                                  | 16                                                                                  |
| Pedestrians                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Width (ft)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Walking Speed (ft/s)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Percent Blockage                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Right turn flare (veh)            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Median type                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | None                                                                               |                                                                                     |                                                                                     | None                                                                                |                                                                                     |                                                                                     |
| Median storage (veh)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Upstream signal (ft)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| pX, platoon unblocked             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| vC, conflicting volume            | 522                                                                               | 512                                                                               | 48                                                                                | 490                                                                               | 482                                                                               | 150                                                                               | 56                                                                                 |                                                                                     |                                                                                     |                                                                                     | 188                                                                                 |                                                                                     |
| vC1, stage 1 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| vC2, stage 2 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| vCu, unblocked vol                | 522                                                                               | 512                                                                               | 48                                                                                | 490                                                                               | 482                                                                               | 150                                                                               | 56                                                                                 |                                                                                     |                                                                                     |                                                                                     | 188                                                                                 |                                                                                     |
| tC, single (s)                    | 7.1                                                                               | 6.9                                                                               | 6.2                                                                               | 7.1                                                                               | 6.5                                                                               | 6.2                                                                               | 4.4                                                                                |                                                                                     |                                                                                     |                                                                                     | 4.1                                                                                 |                                                                                     |
| tC, 2 stage (s)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| tF (s)                            | 3.5                                                                               | 4.4                                                                               | 3.3                                                                               | 3.5                                                                               | 4.0                                                                               | 3.3                                                                               | 2.5                                                                                |                                                                                     |                                                                                     |                                                                                     | 2.2                                                                                 |                                                                                     |
| p0 queue free %                   | 96                                                                                | 96                                                                                | 98                                                                                | 96                                                                                | 96                                                                                | 96                                                                                | 99                                                                                 |                                                                                     |                                                                                     |                                                                                     | 91                                                                                  |                                                                                     |
| cM capacity (veh/h)               | 399                                                                               | 374                                                                               | 1021                                                                              | 430                                                                               | 436                                                                               | 894                                                                               | 1372                                                                               |                                                                                     |                                                                                     |                                                                                     | 1386                                                                                |                                                                                     |
| Direction, Lane #                 | EB 1                                                                              | WB 1                                                                              | WB 2                                                                              | NB 1                                                                              | SB 1                                                                              | SB 2                                                                              |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Total                      | 48                                                                                | 16                                                                                | 56                                                                                | 199                                                                               | 127                                                                               | 56                                                                                |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Left                       | 16                                                                                | 16                                                                                | 0                                                                                 | 11                                                                                | 127                                                                               | 0                                                                                 |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Right                      | 16                                                                                | 0                                                                                 | 40                                                                                | 76                                                                                | 0                                                                                 | 16                                                                                |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| cSH                               | 487                                                                               | 430                                                                               | 688                                                                               | 1372                                                                              | 1386                                                                              | 1700                                                                              |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume to Capacity                | 0.10                                                                              | 0.04                                                                              | 0.08                                                                              | 0.01                                                                              | 0.09                                                                              | 0.03                                                                              |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Queue Length 95th (ft)            | 8                                                                                 | 3                                                                                 | 7                                                                                 | 1                                                                                 | 8                                                                                 | 0                                                                                 |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Control Delay (s)                 | 13.2                                                                              | 13.7                                                                              | 10.7                                                                              | 0.5                                                                               | 7.9                                                                               | 0.0                                                                               |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane LOS                          | B                                                                                 | B                                                                                 | B                                                                                 | A                                                                                 | A                                                                                 |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Approach Delay (s)                | 13.2                                                                              | 11.4                                                                              |                                                                                   | 0.5                                                                               | 5.5                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Approach LOS                      | B                                                                                 | B                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Average Delay                     | 5.1                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Capacity Utilization | 31.8%                                                                             |                                                                                   |                                                                                   | ICU Level of Service                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     | A                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Analysis Period (min)             | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

Lanes, Volumes, Timings  
8: Oakspring Rd & Stevens Mill Rd

Stallings Farms TIA  
2020 Existing PM

|                                   |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group                        | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | NBL                                                                               | NBR                                                                               |
| Lane Configurations               |  |                                                                                   |                                                                                   |  |  |                                                                                   |
| Traffic Volume (vph)              | 429                                                                               | 277                                                                               | 67                                                                                | 216                                                                               | 115                                                                               | 80                                                                                |
| Future Volume (vph)               | 429                                                                               | 277                                                                               | 67                                                                                | 216                                                                               | 115                                                                               | 80                                                                                |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Lane Util. Factor                 | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Frt                               | 0.948                                                                             |                                                                                   |                                                                                   |                                                                                   | 0.937                                                                             |                                                                                   |
| Flt Protected                     |                                                                                   |                                                                                   |                                                                                   | 0.988                                                                             | 0.974                                                                             |                                                                                   |
| Satd. Flow (prot)                 | 1740                                                                              | 0                                                                                 | 0                                                                                 | 1796                                                                              | 1700                                                                              | 0                                                                                 |
| Flt Permitted                     |                                                                                   |                                                                                   |                                                                                   | 0.988                                                                             | 0.974                                                                             |                                                                                   |
| Satd. Flow (perm)                 | 1740                                                                              | 0                                                                                 | 0                                                                                 | 1796                                                                              | 1700                                                                              | 0                                                                                 |
| Link Speed (mph)                  | 45                                                                                |                                                                                   |                                                                                   | 45                                                                                | 35                                                                                |                                                                                   |
| Link Distance (ft)                | 940                                                                               |                                                                                   |                                                                                   | 594                                                                               | 925                                                                               |                                                                                   |
| Travel Time (s)                   | 14.2                                                                              |                                                                                   |                                                                                   | 9.0                                                                               | 18.0                                                                              |                                                                                   |
| Peak Hour Factor                  | 0.88                                                                              | 0.92                                                                              | 0.80                                                                              | 0.86                                                                              | 0.78                                                                              | 0.63                                                                              |
| Heavy Vehicles (%)                | 2%                                                                                | 6%                                                                                | 6%                                                                                | 4%                                                                                | 2%                                                                                | 2%                                                                                |
| Adj. Flow (vph)                   | 488                                                                               | 301                                                                               | 84                                                                                | 251                                                                               | 147                                                                               | 127                                                                               |
| Shared Lane Traffic (%)           |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)             | 789                                                                               | 0                                                                                 | 0                                                                                 | 335                                                                               | 274                                                                               | 0                                                                                 |
| Sign Control                      | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              | Stop                                                                              |                                                                                   |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Area Type:                        | Other                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Control Type:                     | Unsignalized                                                                      |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization | 75.8%                                                                             |                                                                                   |                                                                                   | ICU Level of Service D                                                            |                                                                                   |                                                                                   |
| Analysis Period (min)             | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |

# HCM Unsignalized Intersection Capacity Analysis

## 8: Oakspring Rd & Stevens Mill Rd

Stallings Farms TIA  
2020 Existing PM

|                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|                                   |  |  |  |  |  |  |
| Movement                          | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | NBL                                                                               | NBR                                                                               |
| Lane Configurations               |  |                                                                                   |                                                                                   |  |  |                                                                                   |
| Traffic Volume (veh/h)            | 429                                                                               | 277                                                                               | 67                                                                                | 216                                                                               | 115                                                                               | 80                                                                                |
| Future Volume (Veh/h)             | 429                                                                               | 277                                                                               | 67                                                                                | 216                                                                               | 115                                                                               | 80                                                                                |
| Sign Control                      | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              | Stop                                                                              |                                                                                   |
| Grade                             | 0%                                                                                |                                                                                   |                                                                                   | 0%                                                                                | 0%                                                                                |                                                                                   |
| Peak Hour Factor                  | 0.88                                                                              | 0.92                                                                              | 0.80                                                                              | 0.86                                                                              | 0.78                                                                              | 0.63                                                                              |
| Hourly flow rate (vph)            | 488                                                                               | 301                                                                               | 84                                                                                | 251                                                                               | 147                                                                               | 127                                                                               |
| Pedestrians                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Width (ft)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Walking Speed (ft/s)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Percent Blockage                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Right turn flare (veh)            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Median type                       | None                                                                              |                                                                                   |                                                                                   | None                                                                              |                                                                                   |                                                                                   |
| Median storage veh                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Upstream signal (ft)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| pX, platoon unblocked             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC, conflicting volume            |                                                                                   |                                                                                   | 789                                                                               |                                                                                   | 1058                                                                              | 638                                                                               |
| vC1, stage 1 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC2, stage 2 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vCu, unblocked vol                |                                                                                   |                                                                                   | 789                                                                               |                                                                                   | 1058                                                                              | 638                                                                               |
| tC, single (s)                    |                                                                                   |                                                                                   | 4.2                                                                               |                                                                                   | 6.4                                                                               | 6.2                                                                               |
| tC, 2 stage (s)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| tF (s)                            |                                                                                   |                                                                                   | 2.3                                                                               |                                                                                   | 3.5                                                                               | 3.3                                                                               |
| p0 queue free %                   |                                                                                   |                                                                                   | 90                                                                                |                                                                                   | 34                                                                                | 73                                                                                |
| cM capacity (veh/h)               |                                                                                   |                                                                                   | 813                                                                               |                                                                                   | 223                                                                               | 476                                                                               |
| Direction, Lane #                 | EB 1                                                                              | WB 1                                                                              | NB 1                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Volume Total                      | 789                                                                               | 335                                                                               | 274                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Volume Left                       | 0                                                                                 | 84                                                                                | 147                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Volume Right                      | 301                                                                               | 0                                                                                 | 127                                                                               |                                                                                   |                                                                                   |                                                                                   |
| cSH                               | 1700                                                                              | 813                                                                               | 296                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Volume to Capacity                | 0.46                                                                              | 0.10                                                                              | 0.92                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Queue Length 95th (ft)            | 0                                                                                 | 9                                                                                 | 221                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Control Delay (s)                 | 0.0                                                                               | 3.4                                                                               | 73.4                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Lane LOS                          |                                                                                   | A                                                                                 | F                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| Approach Delay (s)                | 0.0                                                                               | 3.4                                                                               | 73.4                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Approach LOS                      |                                                                                   |                                                                                   | F                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Average Delay                     |                                                                                   |                                                                                   | 15.2                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 75.8%                                                                             | ICU Level of Service                                                              | D                                                                                 |                                                                                   |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |

## 2027 Background Conditions



Lanes, Volumes, Timings  
1: Stallings Rd & Stevens Mill Rd

Stallings Farms TIA  
2027 Background AM

|                         |  |  |  |  |  |  |   |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations     |                                                                                   |  |  |                                                                                   |  |  |  |  |                                                                                     |  |  |                                                                                     |
| Traffic Volume (vph)    | 39                                                                                | 78                                                                                | 118                                                                               | 257                                                                               | 227                                                                               | 370                                                                               | 57                                                                                  | 155                                                                                 | 128                                                                                 | 340                                                                                 | 227                                                                                 | 44                                                                                  |
| Future Volume (vph)     | 39                                                                                | 78                                                                                | 118                                                                               | 257                                                                               | 227                                                                               | 370                                                                               | 57                                                                                  | 155                                                                                 | 128                                                                                 | 340                                                                                 | 227                                                                                 | 44                                                                                  |
| Ideal Flow (vphpl)      | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)     | 0                                                                                 |                                                                                   | 100                                                                               | 0                                                                                 |                                                                                   | 300                                                                               | 150                                                                                 |                                                                                     | 250                                                                                 | 225                                                                                 |                                                                                     | 0                                                                                   |
| Storage Lanes           | 0                                                                                 |                                                                                   | 1                                                                                 | 0                                                                                 |                                                                                   | 1                                                                                 | 1                                                                                   |                                                                                     | 0                                                                                   | 1                                                                                   |                                                                                     | 0                                                                                   |
| Taper Length (ft)       | 25                                                                                |                                                                                   |                                                                                   | 25                                                                                |                                                                                   |                                                                                   | 100                                                                                 |                                                                                     |                                                                                     | 100                                                                                 |                                                                                     |                                                                                     |
| Lane Util. Factor       | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Ped Bike Factor         |                                                                                   |                                                                                   | 0.97                                                                              |                                                                                   | 1.00                                                                              |                                                                                   | 1.00                                                                                |                                                                                     |                                                                                     |                                                                                     | 1.00                                                                                |                                                                                     |
| Frt                     |                                                                                   |                                                                                   | 0.850                                                                             |                                                                                   |                                                                                   | 0.850                                                                             |                                                                                     | 0.928                                                                               |                                                                                     |                                                                                     | 0.980                                                                               |                                                                                     |
| Flt Protected           |                                                                                   | 0.983                                                                             |                                                                                   |                                                                                   | 0.974                                                                             |                                                                                   | 0.950                                                                               |                                                                                     |                                                                                     | 0.950                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (prot)       | 0                                                                                 | 1788                                                                              | 1538                                                                              | 0                                                                                 | 1814                                                                              | 1553                                                                              | 1770                                                                                | 1657                                                                                | 0                                                                                   | 1752                                                                                | 1801                                                                                | 0                                                                                   |
| Flt Permitted           |                                                                                   | 0.427                                                                             |                                                                                   |                                                                                   | 0.759                                                                             |                                                                                   | 0.460                                                                               |                                                                                     |                                                                                     | 0.491                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (perm)       | 0                                                                                 | 777                                                                               | 1498                                                                              | 0                                                                                 | 1410                                                                              | 1553                                                                              | 854                                                                                 | 1657                                                                                | 0                                                                                   | 906                                                                                 | 1801                                                                                | 0                                                                                   |
| Right Turn on Red       |                                                                                   |                                                                                   | No                                                                                |                                                                                   |                                                                                   | No                                                                                |                                                                                     |                                                                                     | No                                                                                  |                                                                                     |                                                                                     | No                                                                                  |
| Satd. Flow (RTOR)       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Link Speed (mph)        |                                                                                   | 45                                                                                |                                                                                   |                                                                                   | 45                                                                                |                                                                                   |                                                                                     | 45                                                                                  |                                                                                     |                                                                                     | 45                                                                                  |                                                                                     |
| Link Distance (ft)      |                                                                                   | 1672                                                                              |                                                                                   |                                                                                   | 940                                                                               |                                                                                   |                                                                                     | 1668                                                                                |                                                                                     |                                                                                     | 1502                                                                                |                                                                                     |
| Travel Time (s)         |                                                                                   | 25.3                                                                              |                                                                                   |                                                                                   | 14.2                                                                              |                                                                                   |                                                                                     | 25.3                                                                                |                                                                                     |                                                                                     | 22.8                                                                                |                                                                                     |
| Confl. Peds. (#/hr)     |                                                                                   |                                                                                   | 3                                                                                 | 3                                                                                 |                                                                                   |                                                                                   | 3                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 3                                                                                   |
| Peak Hour Factor        | 0.77                                                                              | 0.82                                                                              | 0.73                                                                              | 0.82                                                                              | 0.80                                                                              | 0.72                                                                              | 0.80                                                                                | 0.85                                                                                | 0.77                                                                                | 0.69                                                                                | 0.69                                                                                | 0.84                                                                                |
| Heavy Vehicles (%)      | 9%                                                                                | 2%                                                                                | 5%                                                                                | 2%                                                                                | 2%                                                                                | 4%                                                                                | 2%                                                                                  | 4%                                                                                  | 9%                                                                                  | 3%                                                                                  | 3%                                                                                  | 3%                                                                                  |
| Adj. Flow (vph)         | 51                                                                                | 95                                                                                | 162                                                                               | 313                                                                               | 284                                                                               | 514                                                                               | 71                                                                                  | 182                                                                                 | 166                                                                                 | 493                                                                                 | 329                                                                                 | 52                                                                                  |
| Shared Lane Traffic (%) |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)   | 0                                                                                 | 146                                                                               | 162                                                                               | 0                                                                                 | 597                                                                               | 514                                                                               | 71                                                                                  | 348                                                                                 | 0                                                                                   | 493                                                                                 | 381                                                                                 | 0                                                                                   |
| Turn Type               | Perm                                                                              | NA                                                                                | Perm                                                                              | Perm                                                                              | NA                                                                                | Perm                                                                              | Perm                                                                                | NA                                                                                  |                                                                                     | Perm                                                                                | NA                                                                                  |                                                                                     |
| Protected Phases        |                                                                                   | 4                                                                                 |                                                                                   |                                                                                   | 8                                                                                 |                                                                                   |                                                                                     | 2                                                                                   |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     |
| Permitted Phases        | 4                                                                                 |                                                                                   | 4                                                                                 | 8                                                                                 |                                                                                   | 8                                                                                 | 2                                                                                   |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     |                                                                                     |
| Detector Phase          | 4                                                                                 | 4                                                                                 | 4                                                                                 | 8                                                                                 | 8                                                                                 | 8                                                                                 | 2                                                                                   | 2                                                                                   |                                                                                     | 6                                                                                   | 6                                                                                   |                                                                                     |
| Switch Phase            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)     | 12.0                                                                              | 12.0                                                                              | 12.0                                                                              | 7.0                                                                               | 7.0                                                                               | 7.0                                                                               | 12.0                                                                                | 12.0                                                                                |                                                                                     | 7.0                                                                                 | 7.0                                                                                 |                                                                                     |
| Minimum Split (s)       | 25.0                                                                              | 25.0                                                                              | 25.0                                                                              | 25.0                                                                              | 25.0                                                                              | 25.0                                                                              | 25.0                                                                                | 25.0                                                                                |                                                                                     | 25.0                                                                                | 25.0                                                                                |                                                                                     |
| Total Split (s)         | 33.0                                                                              | 33.0                                                                              | 33.0                                                                              | 33.0                                                                              | 33.0                                                                              | 33.0                                                                              | 42.0                                                                                | 42.0                                                                                |                                                                                     | 42.0                                                                                | 42.0                                                                                |                                                                                     |
| Total Split (%)         | 44.0%                                                                             | 44.0%                                                                             | 44.0%                                                                             | 44.0%                                                                             | 44.0%                                                                             | 44.0%                                                                             | 56.0%                                                                               | 56.0%                                                                               |                                                                                     | 56.0%                                                                               | 56.0%                                                                               |                                                                                     |
| Maximum Green (s)       | 26.0                                                                              | 26.0                                                                              | 26.0                                                                              | 26.0                                                                              | 26.0                                                                              | 26.0                                                                              | 35.0                                                                                | 35.0                                                                                |                                                                                     | 35.0                                                                                | 35.0                                                                                |                                                                                     |
| Yellow Time (s)         | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                                 | 5.0                                                                                 |                                                                                     | 5.0                                                                                 | 5.0                                                                                 |                                                                                     |
| All-Red Time (s)        | 2.0                                                                               | 2.0                                                                               | 2.0                                                                               | 2.0                                                                               | 2.0                                                                               | 2.0                                                                               | 2.0                                                                                 | 2.0                                                                                 |                                                                                     | 2.0                                                                                 | 2.0                                                                                 |                                                                                     |
| Lost Time Adjust (s)    |                                                                                   | -2.0                                                                              | -2.0                                                                              |                                                                                   | -2.0                                                                              | -2.0                                                                              | -2.0                                                                                | -2.0                                                                                |                                                                                     | -2.0                                                                                | -2.0                                                                                |                                                                                     |
| Total Lost Time (s)     |                                                                                   | 5.0                                                                               | 5.0                                                                               |                                                                                   | 5.0                                                                               | 5.0                                                                               | 5.0                                                                                 | 5.0                                                                                 |                                                                                     | 5.0                                                                                 | 5.0                                                                                 |                                                                                     |
| Lead/Lag                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lead-Lag Optimize?      |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Vehicle Extension (s)   | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                                 | 3.0                                                                                 |                                                                                     | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |
| Recall Mode             | None                                                                              | None                                                                              | None                                                                              | None                                                                              | None                                                                              | None                                                                              | Min                                                                                 | Min                                                                                 |                                                                                     | Min                                                                                 | Min                                                                                 |                                                                                     |
| Walk Time (s)           | 7.0                                                                               | 7.0                                                                               | 7.0                                                                               | 7.0                                                                               | 7.0                                                                               | 7.0                                                                               | 7.0                                                                                 | 7.0                                                                                 |                                                                                     | 7.0                                                                                 | 7.0                                                                                 |                                                                                     |
| Flash Dont Walk (s)     | 11.0                                                                              | 11.0                                                                              | 11.0                                                                              | 11.0                                                                              | 11.0                                                                              | 11.0                                                                              | 11.0                                                                                | 11.0                                                                                |                                                                                     | 11.0                                                                                | 11.0                                                                                |                                                                                     |
| Pedestrian Calls (#/hr) | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     |
| Act Effct Green (s)     |                                                                                   | 28.0                                                                              | 28.0                                                                              |                                                                                   | 28.0                                                                              | 28.0                                                                              | 37.0                                                                                | 37.0                                                                                |                                                                                     | 37.0                                                                                | 37.0                                                                                |                                                                                     |
| Actuated g/C Ratio      |                                                                                   | 0.37                                                                              | 0.37                                                                              |                                                                                   | 0.37                                                                              | 0.37                                                                              | 0.49                                                                                | 0.49                                                                                |                                                                                     | 0.49                                                                                | 0.49                                                                                |                                                                                     |
| v/c Ratio               |                                                                                   | 0.50                                                                              | 0.29                                                                              |                                                                                   | 1.13                                                                              | 0.89                                                                              | 0.17                                                                                | 0.43                                                                                |                                                                                     | 1.11                                                                                | 0.43                                                                                |                                                                                     |



Lanes, Volumes, Timings  
1: Stallings Rd & Stevens Mill Rd

Stallings Farms TIA  
2027 Background AM

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Control Delay           |                                                                                   | 25.6                                                                              | 18.3                                                                              |                                                                                   | 107.9                                                                             | 42.3                                                                              | 11.9                                                                               | 14.2                                                                                |                                                                                     | 97.2                                                                                | 14.1                                                                                |                                                                                     |
| Queue Delay             |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                | 0.0                                                                                 |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Delay             |                                                                                   | 25.6                                                                              | 18.3                                                                              |                                                                                   | 107.9                                                                             | 42.3                                                                              | 11.9                                                                               | 14.2                                                                                |                                                                                     | 97.2                                                                                | 14.1                                                                                |                                                                                     |
| LOS                     |                                                                                   | C                                                                                 | B                                                                                 |                                                                                   | F                                                                                 | D                                                                                 | B                                                                                  | B                                                                                   |                                                                                     | F                                                                                   | B                                                                                   |                                                                                     |
| Approach Delay          |                                                                                   | 21.8                                                                              |                                                                                   |                                                                                   | 77.5                                                                              |                                                                                   |                                                                                    | 13.8                                                                                |                                                                                     |                                                                                     | 61.0                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | C                                                                                 |                                                                                   |                                                                                   | E                                                                                 |                                                                                   |                                                                                    | B                                                                                   |                                                                                     |                                                                                     | E                                                                                   |                                                                                     |
| Queue Length 50th (ft)  |                                                                                   | 51                                                                                | 52                                                                                |                                                                                   | ~329                                                                              | 219                                                                               | 17                                                                                 | 98                                                                                  |                                                                                     | ~266                                                                                | 107                                                                                 |                                                                                     |
| Queue Length 95th (ft)  |                                                                                   | 95                                                                                | 75                                                                                |                                                                                   | #431                                                                              | 247                                                                               | 35                                                                                 | 149                                                                                 |                                                                                     | #288                                                                                | 120                                                                                 |                                                                                     |
| Internal Link Dist (ft) |                                                                                   | 1592                                                                              |                                                                                   |                                                                                   | 860                                                                               |                                                                                   |                                                                                    | 1588                                                                                |                                                                                     |                                                                                     | 1422                                                                                |                                                                                     |
| Turn Bay Length (ft)    |                                                                                   |                                                                                   | 100                                                                               |                                                                                   |                                                                                   | 300                                                                               | 150                                                                                |                                                                                     |                                                                                     | 225                                                                                 |                                                                                     |                                                                                     |
| Base Capacity (vph)     |                                                                                   | 290                                                                               | 559                                                                               |                                                                                   | 526                                                                               | 579                                                                               | 421                                                                                | 817                                                                                 |                                                                                     | 446                                                                                 | 888                                                                                 |                                                                                     |
| Starvation Cap Reductn  |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 | 0                                                                                  | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     |
| Spillback Cap Reductn   |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 | 0                                                                                  | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     |
| Storage Cap Reductn     |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 | 0                                                                                  | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     |
| Reduced v/c Ratio       |                                                                                   | 0.50                                                                              | 0.29                                                                              |                                                                                   | 1.13                                                                              | 0.89                                                                              | 0.17                                                                               | 0.43                                                                                |                                                                                     | 1.11                                                                                | 0.43                                                                                |                                                                                     |

Intersection Summary

Area Type: Other

Cycle Length: 75

Actuated Cycle Length: 75

Natural Cycle: 80

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.13

Intersection Signal Delay: 56.0

Intersection LOS: E

Intersection Capacity Utilization 85.9%

ICU Level of Service E

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: Stallings Rd & Stevens Mill Rd

|                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|  |  |  |  |  |  |
| Ø2                                                                                  |                                                                                     |                                                                                     | Ø4                                                                                  |                                                                                      |                                                                                       |
| 42 s                                                                                |                                                                                     |                                                                                     | 33 s                                                                                |                                                                                      |                                                                                       |
|  |  |  |  |  |  |
| Ø6                                                                                  |                                                                                     |                                                                                     | Ø8                                                                                  |                                                                                      |                                                                                       |
| 42 s                                                                                |                                                                                     |                                                                                     | 33 s                                                                                |                                                                                      |                                                                                       |

Lanes, Volumes, Timings  
2: Stallings Rd & Sweet Birch Dr

Stallings Farms TIA  
2027 Background AM

|                                   |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group                        | WBL                                                                               | WBR                                                                               | NBT                                                                               | NBR                                                                               | SBL                                                                               | SBT                                                                               |
| Lane Configurations               |  |                                                                                   |  |                                                                                   |                                                                                   |  |
| Traffic Volume (vph)              | 51                                                                                | 29                                                                                | 311                                                                               | 10                                                                                | 18                                                                                | 585                                                                               |
| Future Volume (vph)               | 51                                                                                | 29                                                                                | 311                                                                               | 10                                                                                | 18                                                                                | 585                                                                               |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Lane Util. Factor                 | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Frt                               | 0.951                                                                             |                                                                                   | 0.996                                                                             |                                                                                   |                                                                                   |                                                                                   |
| Flt Protected                     | 0.969                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.998                                                                             |
| Satd. Flow (prot)                 | 1717                                                                              | 0                                                                                 | 1787                                                                              | 0                                                                                 | 0                                                                                 | 1842                                                                              |
| Flt Permitted                     | 0.969                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.998                                                                             |
| Satd. Flow (perm)                 | 1717                                                                              | 0                                                                                 | 1787                                                                              | 0                                                                                 | 0                                                                                 | 1842                                                                              |
| Link Speed (mph)                  | 25                                                                                |                                                                                   | 45                                                                                |                                                                                   |                                                                                   | 45                                                                                |
| Link Distance (ft)                | 597                                                                               |                                                                                   | 2030                                                                              |                                                                                   |                                                                                   | 1668                                                                              |
| Travel Time (s)                   | 16.3                                                                              |                                                                                   | 30.8                                                                              |                                                                                   |                                                                                   | 25.3                                                                              |
| Peak Hour Factor                  | 0.90                                                                              | 0.90                                                                              | 0.81                                                                              | 0.79                                                                              | 0.54                                                                              | 0.60                                                                              |
| Heavy Vehicles (%)                | 2%                                                                                | 2%                                                                                | 6%                                                                                | 2%                                                                                | 2%                                                                                | 3%                                                                                |
| Adj. Flow (vph)                   | 57                                                                                | 32                                                                                | 384                                                                               | 13                                                                                | 33                                                                                | 975                                                                               |
| Shared Lane Traffic (%)           |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)             | 89                                                                                | 0                                                                                 | 397                                                                               | 0                                                                                 | 0                                                                                 | 1008                                                                              |
| Sign Control                      | Stop                                                                              |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Area Type:                        | Other                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Control Type:                     | Unsignalized                                                                      |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization | 56.6%                                                                             |                                                                                   |                                                                                   | ICU Level of Service B                                                            |                                                                                   |                                                                                   |
| Analysis Period (min)             | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |

# HCM Unsignalized Intersection Capacity Analysis

## 2: Stallings Rd & Sweet Birch Dr

Stallings Farms TIA  
2027 Background AM

|                                   |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Movement                          | WBL                                                                               | WBR                                                                               | NBT                                                                               | NBR                                                                               | SBL                                                                               | SBT                                                                               |
| Lane Configurations               |  |                                                                                   |  |                                                                                   |                                                                                   |  |
| Traffic Volume (veh/h)            | 51                                                                                | 29                                                                                | 311                                                                               | 10                                                                                | 18                                                                                | 585                                                                               |
| Future Volume (Veh/h)             | 51                                                                                | 29                                                                                | 311                                                                               | 10                                                                                | 18                                                                                | 585                                                                               |
| Sign Control                      | Stop                                                                              |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              |
| Grade                             | 0%                                                                                |                                                                                   | 0%                                                                                |                                                                                   |                                                                                   | 0%                                                                                |
| Peak Hour Factor                  | 0.90                                                                              | 0.90                                                                              | 0.81                                                                              | 0.79                                                                              | 0.54                                                                              | 0.60                                                                              |
| Hourly flow rate (vph)            | 57                                                                                | 32                                                                                | 384                                                                               | 13                                                                                | 33                                                                                | 975                                                                               |
| Pedestrians                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Width (ft)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Walking Speed (ft/s)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Percent Blockage                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Right turn flare (veh)            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Median type                       |                                                                                   |                                                                                   | None                                                                              |                                                                                   |                                                                                   | None                                                                              |
| Median storage (veh)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Upstream signal (ft)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| pX, platoon unblocked             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC, conflicting volume            | 1432                                                                              | 390                                                                               |                                                                                   |                                                                                   | 397                                                                               |                                                                                   |
| vC1, stage 1 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC2, stage 2 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vCu, unblocked vol                | 1432                                                                              | 390                                                                               |                                                                                   |                                                                                   | 397                                                                               |                                                                                   |
| tC, single (s)                    | 6.4                                                                               | 6.2                                                                               |                                                                                   |                                                                                   | 4.1                                                                               |                                                                                   |
| tC, 2 stage (s)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| tF (s)                            | 3.5                                                                               | 3.3                                                                               |                                                                                   |                                                                                   | 2.2                                                                               |                                                                                   |
| p0 queue free %                   | 60                                                                                | 95                                                                                |                                                                                   |                                                                                   | 97                                                                                |                                                                                   |
| cM capacity (veh/h)               | 144                                                                               | 658                                                                               |                                                                                   |                                                                                   | 1162                                                                              |                                                                                   |
| Direction, Lane #                 | WB 1                                                                              | NB 1                                                                              | SB 1                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Volume Total                      | 89                                                                                | 397                                                                               | 1008                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Volume Left                       | 57                                                                                | 0                                                                                 | 33                                                                                |                                                                                   |                                                                                   |                                                                                   |
| Volume Right                      | 32                                                                                | 13                                                                                | 0                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| cSH                               | 200                                                                               | 1700                                                                              | 1162                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Volume to Capacity                | 0.45                                                                              | 0.23                                                                              | 0.03                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Queue Length 95th (ft)            | 52                                                                                | 0                                                                                 | 2                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| Control Delay (s)                 | 36.7                                                                              | 0.0                                                                               | 0.8                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Lane LOS                          | E                                                                                 |                                                                                   | A                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| Approach Delay (s)                | 36.7                                                                              | 0.0                                                                               | 0.8                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Approach LOS                      | E                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Average Delay                     |                                                                                   | 2.7                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization |                                                                                   | 56.6%                                                                             |                                                                                   | ICU Level of Service                                                              |                                                                                   | B                                                                                 |
| Analysis Period (min)             |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |

Lanes, Volumes, Timings  
3: Nouvelle Dr & Sweet Birch Dr

Stallings Farms TIA  
2027 Background AM

|                                   |              |      |      |                        |       |      |
|-----------------------------------|--------------|------|------|------------------------|-------|------|
|                                   | →            | ↘    | ↙    | ←                      | ↖     | ↗    |
| Lane Group                        | EBT          | EBR  | WBL  | WBT                    | NBL   | NBR  |
| Lane Configurations               | ↗            |      |      | ↖                      | ↘     |      |
| Traffic Volume (vph)              | 24           | 4    | 4    | 71                     | 9     | 4    |
| Future Volume (vph)               | 24           | 4    | 4    | 71                     | 9     | 4    |
| Ideal Flow (vphpl)                | 1900         | 1900 | 1900 | 1900                   | 1900  | 1900 |
| Lane Util. Factor                 | 1.00         | 1.00 | 1.00 | 1.00                   | 1.00  | 1.00 |
| Frt                               | 0.983        |      |      |                        | 0.961 |      |
| Flt Protected                     |              |      |      | 0.998                  | 0.966 |      |
| Satd. Flow (prot)                 | 1831         | 0    | 0    | 1859                   | 1729  | 0    |
| Flt Permitted                     |              |      |      | 0.998                  | 0.966 |      |
| Satd. Flow (perm)                 | 1831         | 0    | 0    | 1859                   | 1729  | 0    |
| Link Speed (mph)                  | 25           |      |      | 25                     | 25    |      |
| Link Distance (ft)                | 597          |      |      | 435                    | 1037  |      |
| Travel Time (s)                   | 16.3         |      |      | 11.9                   | 28.3  |      |
| Peak Hour Factor                  | 0.90         | 0.90 | 0.90 | 0.90                   | 0.90  | 0.90 |
| Adj. Flow (vph)                   | 27           | 4    | 4    | 79                     | 10    | 4    |
| Shared Lane Traffic (%)           |              |      |      |                        |       |      |
| Lane Group Flow (vph)             | 31           | 0    | 0    | 83                     | 14    | 0    |
| Sign Control                      | Free         |      |      | Free                   | Stop  |      |
| Intersection Summary              |              |      |      |                        |       |      |
| Area Type:                        | Other        |      |      |                        |       |      |
| Control Type:                     | Unsignalized |      |      |                        |       |      |
| Intersection Capacity Utilization | 17.0%        |      |      | ICU Level of Service A |       |      |
| Analysis Period (min)             | 15           |      |      |                        |       |      |

# HCM Unsignalized Intersection Capacity Analysis

## 3: Nouvelle Dr & Sweet Birch Dr

Stallings Farms TIA  
2027 Background AM

|                                   |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Movement                          | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | NBL                                                                               | NBR                                                                               |
| Lane Configurations               |  |                                                                                   |                                                                                   |  |  |  |
| Traffic Volume (veh/h)            | 24                                                                                | 4                                                                                 | 4                                                                                 | 71                                                                                | 9                                                                                 | 4                                                                                 |
| Future Volume (Veh/h)             | 24                                                                                | 4                                                                                 | 4                                                                                 | 71                                                                                | 9                                                                                 | 4                                                                                 |
| Sign Control                      | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              | Stop                                                                              |                                                                                   |
| Grade                             | 0%                                                                                |                                                                                   |                                                                                   | 0%                                                                                | 0%                                                                                |                                                                                   |
| Peak Hour Factor                  | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              |
| Hourly flow rate (vph)            | 27                                                                                | 4                                                                                 | 4                                                                                 | 79                                                                                | 10                                                                                | 4                                                                                 |
| Pedestrians                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Width (ft)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Walking Speed (ft/s)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Percent Blockage                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Right turn flare (veh)            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Median type                       | None                                                                              |                                                                                   |                                                                                   | None                                                                              |                                                                                   |                                                                                   |
| Median storage (veh)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Upstream signal (ft)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| pX, platoon unblocked             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC, conflicting volume            |                                                                                   |                                                                                   | 31                                                                                |                                                                                   | 116                                                                               | 29                                                                                |
| vC1, stage 1 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC2, stage 2 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vCu, unblocked vol                |                                                                                   |                                                                                   | 31                                                                                |                                                                                   | 116                                                                               | 29                                                                                |
| tC, single (s)                    |                                                                                   |                                                                                   | 4.1                                                                               |                                                                                   | 6.4                                                                               | 6.2                                                                               |
| tC, 2 stage (s)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| tF (s)                            |                                                                                   |                                                                                   | 2.2                                                                               |                                                                                   | 3.5                                                                               | 3.3                                                                               |
| p0 queue free %                   |                                                                                   |                                                                                   | 100                                                                               |                                                                                   | 99                                                                                | 100                                                                               |
| cM capacity (veh/h)               |                                                                                   |                                                                                   | 1582                                                                              |                                                                                   | 878                                                                               | 1046                                                                              |
| Direction, Lane #                 | EB 1                                                                              | WB 1                                                                              | NB 1                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Volume Total                      | 31                                                                                | 83                                                                                | 14                                                                                |                                                                                   |                                                                                   |                                                                                   |
| Volume Left                       | 0                                                                                 | 4                                                                                 | 10                                                                                |                                                                                   |                                                                                   |                                                                                   |
| Volume Right                      | 4                                                                                 | 0                                                                                 | 4                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| cSH                               | 1700                                                                              | 1582                                                                              | 920                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Volume to Capacity                | 0.02                                                                              | 0.00                                                                              | 0.02                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Queue Length 95th (ft)            | 0                                                                                 | 0                                                                                 | 1                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| Control Delay (s)                 | 0.0                                                                               | 0.4                                                                               | 9.0                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Lane LOS                          |                                                                                   | A                                                                                 | A                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| Approach Delay (s)                | 0.0                                                                               | 0.4                                                                               | 9.0                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Approach LOS                      |                                                                                   |                                                                                   | A                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| <b>Intersection Summary</b>       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Average Delay                     |                                                                                   |                                                                                   | 1.2                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 17.0%                                                                             | ICU Level of Service                                                              |                                                                                   | A                                                                                 |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |

## 4: Stallings Rd &amp; Monroe Expressway WB Ramp

2027 Background AM

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations     |                                                                                   |                                                                                   |                                                                                   |  |  |                                                                                   |  |  |                                                                                     |                                                                                     |  |  |
| Traffic Volume (vph)    | 0                                                                                 | 0                                                                                 | 0                                                                                 | 279                                                                               | 120                                                                               | 161                                                                               | 600                                                                                | 310                                                                                 | 0                                                                                   | 0                                                                                   | 427                                                                                 | 219                                                                                 |
| Future Volume (vph)     | 0                                                                                 | 0                                                                                 | 0                                                                                 | 279                                                                               | 120                                                                               | 161                                                                               | 600                                                                                | 310                                                                                 | 0                                                                                   | 0                                                                                   | 427                                                                                 | 219                                                                                 |
| Ideal Flow (vphpl)      | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                               | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)     | 0                                                                                 |                                                                                   | 0                                                                                 | 325                                                                               |                                                                                   | 50                                                                                | 0                                                                                  |                                                                                     | 0                                                                                   | 200                                                                                 |                                                                                     | 200                                                                                 |
| Storage Lanes           | 0                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                 |                                                                                   | 0                                                                                 | 2                                                                                  |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     | 2                                                                                   |
| Taper Length (ft)       | 25                                                                                |                                                                                   |                                                                                   | 100                                                                               |                                                                                   |                                                                                   | 25                                                                                 |                                                                                     |                                                                                     | 100                                                                                 |                                                                                     |                                                                                     |
| Lane Util. Factor       | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 0.95                                                                              | 0.95                                                                              | 0.97                                                                               | 0.95                                                                                | 1.00                                                                                | 1.00                                                                                | 0.86                                                                                | 0.86                                                                                |
| Frt                     |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.916                                                                             |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 0.952                                                                               |                                                                                     |
| Flt Protected           |                                                                                   |                                                                                   |                                                                                   | 0.950                                                                             |                                                                                   |                                                                                   | 0.950                                                                              |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Satd. Flow (prot)       | 0                                                                                 | 0                                                                                 | 0                                                                                 | 1719                                                                              | 3193                                                                              | 0                                                                                 | 3273                                                                               | 3343                                                                                | 0                                                                                   | 0                                                                                   | 6043                                                                                | 0                                                                                   |
| Flt Permitted           |                                                                                   |                                                                                   |                                                                                   | 0.950                                                                             |                                                                                   |                                                                                   | 0.950                                                                              |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Satd. Flow (perm)       | 0                                                                                 | 0                                                                                 | 0                                                                                 | 1719                                                                              | 3193                                                                              | 0                                                                                 | 3273                                                                               | 3343                                                                                | 0                                                                                   | 0                                                                                   | 6043                                                                                | 0                                                                                   |
| Right Turn on Red       |                                                                                   |                                                                                   | No                                                                                |                                                                                   |                                                                                   | No                                                                                |                                                                                    |                                                                                     | No                                                                                  |                                                                                     |                                                                                     | No                                                                                  |
| Satd. Flow (RTOR)       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Link Speed (mph)        |                                                                                   | 30                                                                                |                                                                                   |                                                                                   | 45                                                                                |                                                                                   |                                                                                    | 35                                                                                  |                                                                                     |                                                                                     | 45                                                                                  |                                                                                     |
| Link Distance (ft)      |                                                                                   | 1788                                                                              |                                                                                   |                                                                                   | 2381                                                                              |                                                                                   |                                                                                    | 198                                                                                 |                                                                                     |                                                                                     | 998                                                                                 |                                                                                     |
| Travel Time (s)         |                                                                                   | 40.6                                                                              |                                                                                   |                                                                                   | 36.1                                                                              |                                                                                   |                                                                                    | 3.9                                                                                 |                                                                                     |                                                                                     | 15.1                                                                                |                                                                                     |
| Peak Hour Factor        | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.87                                                                              | 0.81                                                                              | 0.85                                                                              | 0.94                                                                               | 0.84                                                                                | 0.90                                                                                | 0.90                                                                                | 0.87                                                                                | 0.95                                                                                |
| Heavy Vehicles (%)      | 2%                                                                                | 2%                                                                                | 2%                                                                                | 5%                                                                                | 3%                                                                                | 4%                                                                                | 7%                                                                                 | 8%                                                                                  | 2%                                                                                  | 2%                                                                                  | 2%                                                                                  | 5%                                                                                  |
| Adj. Flow (vph)         | 0                                                                                 | 0                                                                                 | 0                                                                                 | 321                                                                               | 148                                                                               | 189                                                                               | 638                                                                                | 369                                                                                 | 0                                                                                   | 0                                                                                   | 491                                                                                 | 231                                                                                 |
| Shared Lane Traffic (%) |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)   | 0                                                                                 | 0                                                                                 | 0                                                                                 | 321                                                                               | 337                                                                               | 0                                                                                 | 638                                                                                | 369                                                                                 | 0                                                                                   | 0                                                                                   | 722                                                                                 | 0                                                                                   |
| Turn Type               |                                                                                   |                                                                                   |                                                                                   | Split                                                                             | NA                                                                                |                                                                                   | Prot                                                                               | NA                                                                                  |                                                                                     |                                                                                     | NA                                                                                  |                                                                                     |
| Protected Phases        |                                                                                   |                                                                                   |                                                                                   | 4                                                                                 | 4                                                                                 |                                                                                   | 3 5                                                                                | 2 3                                                                                 |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     |
| Permitted Phases        |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Detector Phase          |                                                                                   |                                                                                   |                                                                                   | 4                                                                                 | 4                                                                                 |                                                                                   | 3 5                                                                                | 2 3                                                                                 |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     |
| Switch Phase            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)     |                                                                                   |                                                                                   |                                                                                   | 7.0                                                                               | 7.0                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 12.0                                                                                |                                                                                     |
| Minimum Split (s)       |                                                                                   |                                                                                   |                                                                                   | 13.7                                                                              | 13.7                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 28.4                                                                                |                                                                                     |
| Total Split (s)         |                                                                                   |                                                                                   |                                                                                   | 36.0                                                                              | 36.0                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 29.0                                                                                |                                                                                     |
| Total Split (%)         |                                                                                   |                                                                                   |                                                                                   | 30.0%                                                                             | 30.0%                                                                             |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 24.2%                                                                               |                                                                                     |
| Maximum Green (s)       |                                                                                   |                                                                                   |                                                                                   | 29.3                                                                              | 29.3                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 23.6                                                                                |                                                                                     |
| Yellow Time (s)         |                                                                                   |                                                                                   |                                                                                   | 4.3                                                                               | 4.3                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 4.4                                                                                 |                                                                                     |
| All-Red Time (s)        |                                                                                   |                                                                                   |                                                                                   | 2.4                                                                               | 2.4                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 1.0                                                                                 |                                                                                     |
| Lost Time Adjust (s)    |                                                                                   |                                                                                   |                                                                                   | -1.7                                                                              | -1.7                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | -0.4                                                                                |                                                                                     |
| Total Lost Time (s)     |                                                                                   |                                                                                   |                                                                                   | 5.0                                                                               | 5.0                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 5.0                                                                                 |                                                                                     |
| Lead/Lag                |                                                                                   |                                                                                   |                                                                                   | Lag                                                                               | Lag                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | Lag                                                                                 |                                                                                     |
| Lead-Lag Optimize?      |                                                                                   |                                                                                   |                                                                                   | Yes                                                                               | Yes                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | Yes                                                                                 |                                                                                     |
| Vehicle Extension (s)   |                                                                                   |                                                                                   |                                                                                   | 3.0                                                                               | 3.0                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 3.0                                                                                 |                                                                                     |
| Recall Mode             |                                                                                   |                                                                                   |                                                                                   | None                                                                              | None                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | C-Min                                                                               |                                                                                     |
| Walk Time (s)           |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 7.0                                                                                 |                                                                                     |
| Flash Dont Walk (s)     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 16.0                                                                                |                                                                                     |
| Pedestrian Calls (#/hr) |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Act Effct Green (s)     |                                                                                   |                                                                                   |                                                                                   | 28.7                                                                              | 28.7                                                                              |                                                                                   | 42.6                                                                               | 61.8                                                                                |                                                                                     |                                                                                     | 25.9                                                                                |                                                                                     |
| Actuated g/C Ratio      |                                                                                   |                                                                                   |                                                                                   | 0.24                                                                              | 0.24                                                                              |                                                                                   | 0.36                                                                               | 0.52                                                                                |                                                                                     |                                                                                     | 0.22                                                                                |                                                                                     |
| v/c Ratio               |                                                                                   |                                                                                   |                                                                                   | 0.78                                                                              | 0.44                                                                              |                                                                                   | 0.55                                                                               | 0.21                                                                                |                                                                                     |                                                                                     | 0.55                                                                                |                                                                                     |
| Control Delay           |                                                                                   |                                                                                   |                                                                                   | 56.4                                                                              | 40.3                                                                              |                                                                                   | 20.6                                                                               | 1.1                                                                                 |                                                                                     |                                                                                     | 44.5                                                                                |                                                                                     |
| Queue Delay             |                                                                                   |                                                                                   |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   | 14.1                                                                               | 0.3                                                                                 |                                                                                     |                                                                                     | 0.0                                                                                 |                                                                                     |



Lanes, Volumes, Timings  
4: Stallings Rd & Monroe Expressway WB Ramp

Stallings Farms TIA  
2027 Background AM

| Lane Group              | Ø1   | Ø2    | Ø3   | Ø5   |
|-------------------------|------|-------|------|------|
| Lane Configurations     |      |       |      |      |
| Traffic Volume (vph)    |      |       |      |      |
| Future Volume (vph)     |      |       |      |      |
| Ideal Flow (vphpl)      |      |       |      |      |
| Storage Length (ft)     |      |       |      |      |
| Storage Lanes           |      |       |      |      |
| Taper Length (ft)       |      |       |      |      |
| Lane Util. Factor       |      |       |      |      |
| Frt                     |      |       |      |      |
| Flt Protected           |      |       |      |      |
| Satd. Flow (prot)       |      |       |      |      |
| Flt Permitted           |      |       |      |      |
| Satd. Flow (perm)       |      |       |      |      |
| Right Turn on Red       |      |       |      |      |
| Satd. Flow (RTOR)       |      |       |      |      |
| Link Speed (mph)        |      |       |      |      |
| Link Distance (ft)      |      |       |      |      |
| Travel Time (s)         |      |       |      |      |
| Peak Hour Factor        |      |       |      |      |
| Heavy Vehicles (%)      |      |       |      |      |
| Adj. Flow (vph)         |      |       |      |      |
| Shared Lane Traffic (%) |      |       |      |      |
| Lane Group Flow (vph)   |      |       |      |      |
| Turn Type               |      |       |      |      |
| Protected Phases        | 1    | 2     | 3    | 5    |
| Permitted Phases        |      |       |      |      |
| Detector Phase          |      |       |      |      |
| Switch Phase            |      |       |      |      |
| Minimum Initial (s)     | 7.0  | 10.0  | 7.0  | 7.0  |
| Minimum Split (s)       | 13.3 | 24.2  | 13.4 | 13.2 |
| Total Split (s)         | 14.0 | 29.0  | 41.0 | 14.0 |
| Total Split (%)         | 12%  | 24%   | 34%  | 12%  |
| Maximum Green (s)       | 7.7  | 23.8  | 34.6 | 7.8  |
| Yellow Time (s)         | 3.0  | 3.9   | 3.8  | 3.0  |
| All-Red Time (s)        | 3.3  | 1.3   | 2.6  | 3.2  |
| Lost Time Adjust (s)    |      |       |      |      |
| Total Lost Time (s)     |      |       |      |      |
| Lead/Lag                | Lag  | Lead  | Lead | Lead |
| Lead-Lag Optimize?      | Yes  | Yes   | Yes  | Yes  |
| Vehicle Extension (s)   | 3.0  | 3.0   | 3.0  | 3.0  |
| Recall Mode             | None | C-Min | None | None |
| Walk Time (s)           |      | 7.0   |      |      |
| Flash Dont Walk (s)     |      | 12.0  |      |      |
| Pedestrian Calls (#/hr) |      | 0     |      |      |
| Act Effct Green (s)     |      |       |      |      |
| Actuated g/C Ratio      |      |       |      |      |
| v/c Ratio               |      |       |      |      |
| Control Delay           |      |       |      |      |
| Queue Delay             |      |       |      |      |

Lanes, Volumes, Timings  
4: Stallings Rd & Monroe Expressway WB Ramp

Stallings Farms TIA  
2027 Background AM

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Total Delay             |                                                                                   |                                                                                   |                                                                                   | 56.4                                                                              | 40.3                                                                              |                                                                                   | 34.7                                                                               | 1.4                                                                                 |                                                                                     |                                                                                     | 44.5                                                                                |                                                                                     |
| LOS                     |                                                                                   |                                                                                   |                                                                                   | E                                                                                 | D                                                                                 |                                                                                   | C                                                                                  | A                                                                                   |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |
| Approach Delay          |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 48.2                                                                              |                                                                                   |                                                                                    | 22.5                                                                                |                                                                                     |                                                                                     | 44.5                                                                                |                                                                                     |
| Approach LOS            |                                                                                   |                                                                                   |                                                                                   |                                                                                   | D                                                                                 |                                                                                   |                                                                                    | C                                                                                   |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |
| Queue Length 50th (ft)  |                                                                                   |                                                                                   |                                                                                   | 228                                                                               | 114                                                                               |                                                                                   | 173                                                                                | 4                                                                                   |                                                                                     |                                                                                     | 150                                                                                 |                                                                                     |
| Queue Length 95th (ft)  |                                                                                   |                                                                                   |                                                                                   | 319                                                                               | 141                                                                               |                                                                                   | 230                                                                                | 9                                                                                   |                                                                                     |                                                                                     | 177                                                                                 |                                                                                     |
| Internal Link Dist (ft) |                                                                                   | 1708                                                                              |                                                                                   |                                                                                   | 2301                                                                              |                                                                                   |                                                                                    | 118                                                                                 |                                                                                     |                                                                                     | 918                                                                                 |                                                                                     |
| Turn Bay Length (ft)    |                                                                                   |                                                                                   |                                                                                   | 325                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Base Capacity (vph)     |                                                                                   |                                                                                   |                                                                                   | 444                                                                               | 824                                                                               |                                                                                   | 1205                                                                               | 1772                                                                                |                                                                                     |                                                                                     | 1334                                                                                |                                                                                     |
| Starvation Cap Reductn  |                                                                                   |                                                                                   |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 552                                                                                | 835                                                                                 |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Spillback Cap Reductn   |                                                                                   |                                                                                   |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                  | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Storage Cap Reductn     |                                                                                   |                                                                                   |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                  | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Reduced v/c Ratio       |                                                                                   |                                                                                   |                                                                                   | 0.72                                                                              | 0.41                                                                              |                                                                                   | 0.98                                                                               | 0.39                                                                                |                                                                                     |                                                                                     | 0.54                                                                                |                                                                                     |

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.78

Intersection Signal Delay: 36.2

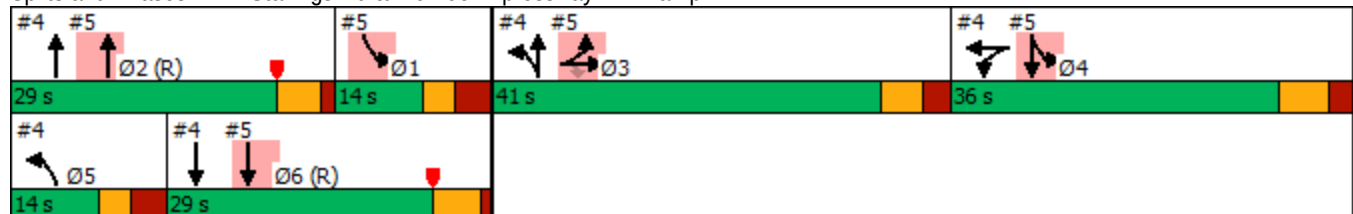
Intersection LOS: D

Intersection Capacity Utilization 63.6%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 4: Stallings Rd & Monroe Expressway WB Ramp



| Lane Group              | Ø1 | Ø2 | Ø3 | Ø5 |
|-------------------------|----|----|----|----|
| Total Delay             |    |    |    |    |
| LOS                     |    |    |    |    |
| Approach Delay          |    |    |    |    |
| Approach LOS            |    |    |    |    |
| Queue Length 50th (ft)  |    |    |    |    |
| Queue Length 95th (ft)  |    |    |    |    |
| Internal Link Dist (ft) |    |    |    |    |
| Turn Bay Length (ft)    |    |    |    |    |
| Base Capacity (vph)     |    |    |    |    |
| Starvation Cap Reductn  |    |    |    |    |
| Spillback Cap Reductn   |    |    |    |    |
| Storage Cap Reductn     |    |    |    |    |
| Reduced v/c Ratio       |    |    |    |    |
| Intersection Summary    |    |    |    |    |

Lanes, Volumes, Timings  
5: Stallings Rd & Monroe Expressway EB Ramp

Stallings Farms TIA  
2027 Background AM

|                         |  |                                                                                   |                                                                                   |      |      |      |      |                                                                                     |      |                                                                                     |                                                                                     |      |
|-------------------------|------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|------|------|------|-------------------------------------------------------------------------------------|------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------|
| Lane Group              | EBL                                                                                | EBT                                                                               | EBR                                                                               | WBL  | WBT  | WBR  | NBL  | NBT                                                                                 | NBR  | SBL                                                                                 | SBT                                                                                 | SBR  |
| Lane Configurations     |                                                                                    |  |  |      |      |      |      |  |      |  |  |      |
| Traffic Volume (vph)    | 209                                                                                | 164                                                                               | 407                                                                               | 0    | 0    | 0    | 0    | 701                                                                                 | 62   | 172                                                                                 | 534                                                                                 | 0    |
| Future Volume (vph)     | 209                                                                                | 164                                                                               | 407                                                                               | 0    | 0    | 0    | 0    | 701                                                                                 | 62   | 172                                                                                 | 534                                                                                 | 0    |
| Ideal Flow (vphpl)      | 1900                                                                               | 1900                                                                              | 1900                                                                              | 1900 | 1900 | 1900 | 1900 | 1900                                                                                | 1900 | 1900                                                                                | 1900                                                                                | 1900 |
| Storage Length (ft)     | 175                                                                                |                                                                                   | 325                                                                               | 0    |      | 0    | 425  |                                                                                     | 275  | 0                                                                                   |                                                                                     | 0    |
| Storage Lanes           | 0                                                                                  |                                                                                   | 1                                                                                 | 0    |      | 0    | 2    |                                                                                     | 0    | 2                                                                                   |                                                                                     | 0    |
| Taper Length (ft)       | 100                                                                                |                                                                                   |                                                                                   | 25   |      |      | 225  |                                                                                     |      | 25                                                                                  |                                                                                     |      |
| Lane Util. Factor       | 0.95                                                                               | 0.91                                                                              | 0.91                                                                              | 1.00 | 1.00 | 1.00 | 1.00 | 0.86                                                                                | 0.86 | 0.97                                                                                | 0.95                                                                                | 1.00 |
| Frt                     |                                                                                    | 0.956                                                                             | 0.850                                                                             |      |      |      |      | 0.984                                                                               |      |                                                                                     |                                                                                     |      |
| Flt Protected           |                                                                                    | 0.981                                                                             |                                                                                   |      |      |      |      |                                                                                     |      | 0.950                                                                               |                                                                                     |      |
| Satd. Flow (prot)       | 0                                                                                  | 3099                                                                              | 1427                                                                              | 0    | 0    | 0    | 0    | 5973                                                                                | 0    | 3335                                                                                | 3505                                                                                | 0    |
| Flt Permitted           |                                                                                    | 0.981                                                                             |                                                                                   |      |      |      |      |                                                                                     |      | 0.950                                                                               |                                                                                     |      |
| Satd. Flow (perm)       | 0                                                                                  | 3099                                                                              | 1427                                                                              | 0    | 0    | 0    | 0    | 5973                                                                                | 0    | 3335                                                                                | 3505                                                                                | 0    |
| Right Turn on Red       |                                                                                    |                                                                                   | No                                                                                |      |      | No   |      |                                                                                     | No   |                                                                                     |                                                                                     | No   |
| Satd. Flow (RTOR)       |                                                                                    |                                                                                   |                                                                                   |      |      |      |      |                                                                                     |      |                                                                                     |                                                                                     |      |
| Link Speed (mph)        |                                                                                    | 35                                                                                |                                                                                   |      | 30   |      |      | 35                                                                                  |      |                                                                                     | 35                                                                                  |      |
| Link Distance (ft)      |                                                                                    | 1776                                                                              |                                                                                   |      | 891  |      |      | 1501                                                                                |      |                                                                                     | 198                                                                                 |      |
| Travel Time (s)         |                                                                                    | 34.6                                                                              |                                                                                   |      | 20.3 |      |      | 29.2                                                                                |      |                                                                                     | 3.9                                                                                 |      |
| Peak Hour Factor        | 0.79                                                                               | 0.78                                                                              | 0.81                                                                              | 0.90 | 0.90 | 0.90 | 0.90 | 0.92                                                                                | 0.67 | 0.80                                                                                | 0.92                                                                                | 0.90 |
| Heavy Vehicles (%)      | 4%                                                                                 | 7%                                                                                | 3%                                                                                | 2%   | 2%   | 2%   | 2%   | 8%                                                                                  | 5%   | 5%                                                                                  | 3%                                                                                  | 2%   |
| Adj. Flow (vph)         | 265                                                                                | 210                                                                               | 502                                                                               | 0    | 0    | 0    | 0    | 762                                                                                 | 93   | 215                                                                                 | 580                                                                                 | 0    |
| Shared Lane Traffic (%) |                                                                                    |                                                                                   | 39%                                                                               |      |      |      |      |                                                                                     |      |                                                                                     |                                                                                     |      |
| Lane Group Flow (vph)   | 0                                                                                  | 671                                                                               | 306                                                                               | 0    | 0    | 0    | 0    | 855                                                                                 | 0    | 215                                                                                 | 580                                                                                 | 0    |
| Turn Type               | Split                                                                              | NA                                                                                | Perm                                                                              |      |      |      |      | NA                                                                                  |      | Prot                                                                                | NA                                                                                  |      |
| Protected Phases        | 3                                                                                  | 3                                                                                 |                                                                                   |      |      |      |      | 2                                                                                   |      | 1 4                                                                                 | 4 6                                                                                 |      |
| Permitted Phases        |                                                                                    |                                                                                   | 3                                                                                 |      |      |      |      |                                                                                     |      |                                                                                     |                                                                                     |      |
| Detector Phase          | 3                                                                                  | 3                                                                                 | 3                                                                                 |      |      |      |      | 2                                                                                   |      | 1 4                                                                                 | 4 6                                                                                 |      |
| Switch Phase            |                                                                                    |                                                                                   |                                                                                   |      |      |      |      |                                                                                     |      |                                                                                     |                                                                                     |      |
| Minimum Initial (s)     | 7.0                                                                                | 7.0                                                                               | 7.0                                                                               |      |      |      |      | 10.0                                                                                |      |                                                                                     |                                                                                     |      |
| Minimum Split (s)       | 13.4                                                                               | 13.4                                                                              | 13.4                                                                              |      |      |      |      | 24.2                                                                                |      |                                                                                     |                                                                                     |      |
| Total Split (s)         | 41.0                                                                               | 41.0                                                                              | 41.0                                                                              |      |      |      |      | 29.0                                                                                |      |                                                                                     |                                                                                     |      |
| Total Split (%)         | 34.2%                                                                              | 34.2%                                                                             | 34.2%                                                                             |      |      |      |      | 24.2%                                                                               |      |                                                                                     |                                                                                     |      |
| Maximum Green (s)       | 34.6                                                                               | 34.6                                                                              | 34.6                                                                              |      |      |      |      | 23.8                                                                                |      |                                                                                     |                                                                                     |      |
| Yellow Time (s)         | 3.8                                                                                | 3.8                                                                               | 3.8                                                                               |      |      |      |      | 3.9                                                                                 |      |                                                                                     |                                                                                     |      |
| All-Red Time (s)        | 2.6                                                                                | 2.6                                                                               | 2.6                                                                               |      |      |      |      | 1.3                                                                                 |      |                                                                                     |                                                                                     |      |
| Lost Time Adjust (s)    |                                                                                    | -1.4                                                                              | -1.4                                                                              |      |      |      |      | -0.2                                                                                |      |                                                                                     |                                                                                     |      |
| Total Lost Time (s)     |                                                                                    | 5.0                                                                               | 5.0                                                                               |      |      |      |      | 5.0                                                                                 |      |                                                                                     |                                                                                     |      |
| Lead/Lag                | Lead                                                                               | Lead                                                                              | Lead                                                                              |      |      |      |      | Lead                                                                                |      |                                                                                     |                                                                                     |      |
| Lead-Lag Optimize?      | Yes                                                                                | Yes                                                                               | Yes                                                                               |      |      |      |      | Yes                                                                                 |      |                                                                                     |                                                                                     |      |
| Vehicle Extension (s)   | 3.0                                                                                | 3.0                                                                               | 3.0                                                                               |      |      |      |      | 3.0                                                                                 |      |                                                                                     |                                                                                     |      |
| Recall Mode             | None                                                                               | None                                                                              | None                                                                              |      |      |      |      | C-Min                                                                               |      |                                                                                     |                                                                                     |      |
| Walk Time (s)           |                                                                                    |                                                                                   |                                                                                   |      |      |      |      | 7.0                                                                                 |      |                                                                                     |                                                                                     |      |
| Flash Dont Walk (s)     |                                                                                    |                                                                                   |                                                                                   |      |      |      |      | 12.0                                                                                |      |                                                                                     |                                                                                     |      |
| Pedestrian Calls (#/hr) |                                                                                    |                                                                                   |                                                                                   |      |      |      |      | 0                                                                                   |      |                                                                                     |                                                                                     |      |
| Act Effct Green (s)     |                                                                                    | 34.6                                                                              | 34.6                                                                              |      |      |      |      | 27.6                                                                                |      | 35.2                                                                                | 51.2                                                                                |      |
| Actuated g/C Ratio      |                                                                                    | 0.29                                                                              | 0.29                                                                              |      |      |      |      | 0.23                                                                                |      | 0.29                                                                                | 0.43                                                                                |      |
| v/c Ratio               |                                                                                    | 0.75                                                                              | 0.74                                                                              |      |      |      |      | 0.62                                                                                |      | 0.22                                                                                | 0.39                                                                                |      |
| Control Delay           |                                                                                    | 44.6                                                                              | 50.7                                                                              |      |      |      |      | 44.8                                                                                |      | 6.8                                                                                 | 2.5                                                                                 |      |
| Queue Delay             |                                                                                    | 0.6                                                                               | 0.0                                                                               |      |      |      |      | 1.1                                                                                 |      | 0.5                                                                                 | 0.3                                                                                 |      |

Lanes, Volumes, Timings  
5: Stallings Rd & Monroe Expressway EB Ramp

Stallings Farms TIA  
2027 Background AM

| Lane Group              | Ø1   | Ø4   | Ø5   | Ø6    |
|-------------------------|------|------|------|-------|
| Lane Configurations     |      |      |      |       |
| Traffic Volume (vph)    |      |      |      |       |
| Future Volume (vph)     |      |      |      |       |
| Ideal Flow (vphpl)      |      |      |      |       |
| Storage Length (ft)     |      |      |      |       |
| Storage Lanes           |      |      |      |       |
| Taper Length (ft)       |      |      |      |       |
| Lane Util. Factor       |      |      |      |       |
| Frt                     |      |      |      |       |
| Flt Protected           |      |      |      |       |
| Satd. Flow (prot)       |      |      |      |       |
| Flt Permitted           |      |      |      |       |
| Satd. Flow (perm)       |      |      |      |       |
| Right Turn on Red       |      |      |      |       |
| Satd. Flow (RTOR)       |      |      |      |       |
| Link Speed (mph)        |      |      |      |       |
| Link Distance (ft)      |      |      |      |       |
| Travel Time (s)         |      |      |      |       |
| Peak Hour Factor        |      |      |      |       |
| Heavy Vehicles (%)      |      |      |      |       |
| Adj. Flow (vph)         |      |      |      |       |
| Shared Lane Traffic (%) |      |      |      |       |
| Lane Group Flow (vph)   |      |      |      |       |
| Turn Type               |      |      |      |       |
| Protected Phases        | 1    | 4    | 5    | 6     |
| Permitted Phases        |      |      |      |       |
| Detector Phase          |      |      |      |       |
| Switch Phase            |      |      |      |       |
| Minimum Initial (s)     | 7.0  | 7.0  | 7.0  | 12.0  |
| Minimum Split (s)       | 13.3 | 13.7 | 13.2 | 28.4  |
| Total Split (s)         | 14.0 | 36.0 | 14.0 | 29.0  |
| Total Split (%)         | 12%  | 30%  | 12%  | 24%   |
| Maximum Green (s)       | 7.7  | 29.3 | 7.8  | 23.6  |
| Yellow Time (s)         | 3.0  | 4.3  | 3.0  | 4.4   |
| All-Red Time (s)        | 3.3  | 2.4  | 3.2  | 1.0   |
| Lost Time Adjust (s)    |      |      |      |       |
| Total Lost Time (s)     |      |      |      |       |
| Lead/Lag                | Lag  | Lag  | Lead | Lag   |
| Lead-Lag Optimize?      | Yes  | Yes  | Yes  | Yes   |
| Vehicle Extension (s)   | 3.0  | 3.0  | 3.0  | 3.0   |
| Recall Mode             | None | None | None | C-Min |
| Walk Time (s)           |      |      |      | 7.0   |
| Flash Dont Walk (s)     |      |      |      | 16.0  |
| Pedestrian Calls (#/hr) |      |      |      | 0     |
| Act Effct Green (s)     |      |      |      |       |
| Actuated g/C Ratio      |      |      |      |       |
| v/c Ratio               |      |      |      |       |
| Control Delay           |      |      |      |       |
| Queue Delay             |      |      |      |       |

Lanes, Volumes, Timings  
5: Stallings Rd & Monroe Expressway EB Ramp

Stallings Farms TIA  
2027 Background AM

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Total Delay             |                                                                                   | 45.2                                                                              | 50.7                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 45.9                                                                                |                                                                                     | 7.3                                                                                 | 2.8                                                                                 |                                                                                     |
| LOS                     |                                                                                   | D                                                                                 | D                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                    | D                                                                                   |                                                                                     | A                                                                                   | A                                                                                   |                                                                                     |
| Approach Delay          |                                                                                   | 46.9                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 45.9                                                                                |                                                                                     |                                                                                     | 4.0                                                                                 |                                                                                     |
| Approach LOS            |                                                                                   | D                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    | D                                                                                   |                                                                                     |                                                                                     | A                                                                                   |                                                                                     |
| Queue Length 50th (ft)  |                                                                                   | 252                                                                               | 229                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 183                                                                                 |                                                                                     | 26                                                                                  | 7                                                                                   |                                                                                     |
| Queue Length 95th (ft)  |                                                                                   | 271                                                                               | 304                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 219                                                                                 |                                                                                     | 42                                                                                  | 22                                                                                  |                                                                                     |
| Internal Link Dist (ft) |                                                                                   | 1696                                                                              |                                                                                   |                                                                                   | 811                                                                               |                                                                                   |                                                                                    | 1421                                                                                |                                                                                     |                                                                                     | 118                                                                                 |                                                                                     |
| Turn Bay Length (ft)    |                                                                                   |                                                                                   | 325                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Base Capacity (vph)     |                                                                                   | 934                                                                               | 430                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 1385                                                                                |                                                                                     | 1042                                                                                | 1580                                                                                |                                                                                     |
| Starvation Cap Reductn  |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 0                                                                                   |                                                                                     | 504                                                                                 | 467                                                                                 |                                                                                     |
| Spillback Cap Reductn   |                                                                                   | 63                                                                                | 0                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 291                                                                                 |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     |
| Storage Cap Reductn     |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     |
| Reduced v/c Ratio       |                                                                                   | 0.77                                                                              | 0.71                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 0.78                                                                                |                                                                                     | 0.40                                                                                | 0.52                                                                                |                                                                                     |

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.78

Intersection Signal Delay: 33.6

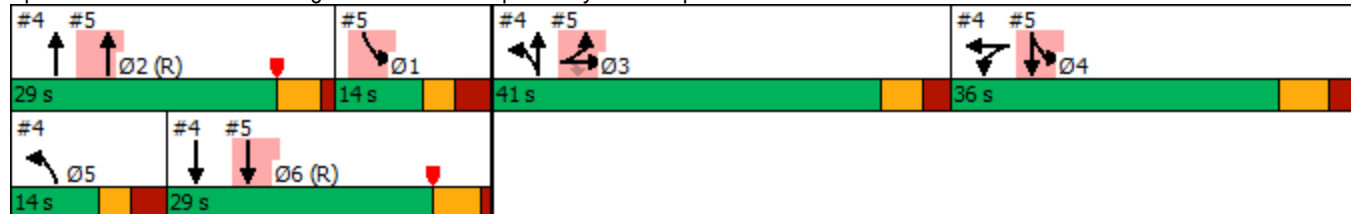
Intersection LOS: C

Intersection Capacity Utilization 63.6%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 5: Stallings Rd & Monroe Expressway EB Ramp





| Lane Group              | Ø1 | Ø4 | Ø5 | Ø6 |
|-------------------------|----|----|----|----|
| Total Delay             |    |    |    |    |
| LOS                     |    |    |    |    |
| Approach Delay          |    |    |    |    |
| Approach LOS            |    |    |    |    |
| Queue Length 50th (ft)  |    |    |    |    |
| Queue Length 95th (ft)  |    |    |    |    |
| Internal Link Dist (ft) |    |    |    |    |
| Turn Bay Length (ft)    |    |    |    |    |
| Base Capacity (vph)     |    |    |    |    |
| Starvation Cap Reductn  |    |    |    |    |
| Spillback Cap Reductn   |    |    |    |    |
| Storage Cap Reductn     |    |    |    |    |
| Reduced v/c Ratio       |    |    |    |    |
| Intersection Summary    |    |    |    |    |

Lanes, Volumes, Timings  
6: Stallings Rd & Matthews-Indian Trail Rd

Stallings Farms TIA  
2027 Background AM

|                         |  |  |  |  |  |  |   |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations     |  |  |                                                                                   |  |  |                                                                                   |  |  |                                                                                     |  |  |                                                                                     |
| Traffic Volume (vph)    | 20                                                                                | 25                                                                                | 64                                                                                | 103                                                                               | 53                                                                                | 111                                                                               | 123                                                                                 | 614                                                                                 | 98                                                                                  | 167                                                                                 | 571                                                                                 | 49                                                                                  |
| Future Volume (vph)     | 20                                                                                | 25                                                                                | 64                                                                                | 103                                                                               | 53                                                                                | 111                                                                               | 123                                                                                 | 614                                                                                 | 98                                                                                  | 167                                                                                 | 571                                                                                 | 49                                                                                  |
| Ideal Flow (vphpl)      | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)     | 140                                                                               |                                                                                   | 0                                                                                 | 140                                                                               |                                                                                   | 0                                                                                 | 120                                                                                 |                                                                                     | 150                                                                                 | 110                                                                                 |                                                                                     | 0                                                                                   |
| Storage Lanes           | 1                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                   |                                                                                     | 0                                                                                   | 1                                                                                   |                                                                                     | 0                                                                                   |
| Taper Length (ft)       | 100                                                                               |                                                                                   |                                                                                   | 75                                                                                |                                                                                   |                                                                                   | 100                                                                                 |                                                                                     |                                                                                     | 100                                                                                 |                                                                                     |                                                                                     |
| Lane Util. Factor       | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Frt                     |                                                                                   | 0.893                                                                             |                                                                                   |                                                                                   | 0.901                                                                             |                                                                                   |                                                                                     | 0.978                                                                               |                                                                                     |                                                                                     | 0.987                                                                               |                                                                                     |
| Flt Protected           | 0.950                                                                             |                                                                                   |                                                                                   | 0.950                                                                             |                                                                                   |                                                                                   | 0.950                                                                               |                                                                                     |                                                                                     | 0.950                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (prot)       | 1543                                                                              | 1618                                                                              | 0                                                                                 | 1467                                                                              | 1635                                                                              | 0                                                                                 | 1770                                                                                | 1721                                                                                | 0                                                                                   | 1770                                                                                | 1822                                                                                | 0                                                                                   |
| Flt Permitted           | 0.580                                                                             |                                                                                   |                                                                                   | 0.679                                                                             |                                                                                   |                                                                                   | 0.287                                                                               |                                                                                     |                                                                                     | 0.205                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (perm)       | 942                                                                               | 1618                                                                              | 0                                                                                 | 1049                                                                              | 1635                                                                              | 0                                                                                 | 535                                                                                 | 1721                                                                                | 0                                                                                   | 382                                                                                 | 1822                                                                                | 0                                                                                   |
| Right Turn on Red       |                                                                                   |                                                                                   | No                                                                                |                                                                                   |                                                                                   | No                                                                                |                                                                                     |                                                                                     | No                                                                                  |                                                                                     |                                                                                     | No                                                                                  |
| Satd. Flow (RTOR)       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Link Speed (mph)        |                                                                                   | 45                                                                                |                                                                                   |                                                                                   | 35                                                                                |                                                                                   |                                                                                     | 35                                                                                  |                                                                                     |                                                                                     | 35                                                                                  |                                                                                     |
| Link Distance (ft)      |                                                                                   | 2002                                                                              |                                                                                   |                                                                                   | 586                                                                               |                                                                                   |                                                                                     | 1248                                                                                |                                                                                     |                                                                                     | 1501                                                                                |                                                                                     |
| Travel Time (s)         |                                                                                   | 30.3                                                                              |                                                                                   |                                                                                   | 11.4                                                                              |                                                                                   |                                                                                     | 24.3                                                                                |                                                                                     |                                                                                     | 29.2                                                                                |                                                                                     |
| Peak Hour Factor        | 0.79                                                                              | 0.72                                                                              | 0.74                                                                              | 0.68                                                                              | 0.71                                                                              | 0.76                                                                              | 0.81                                                                                | 0.87                                                                                | 0.82                                                                                | 0.87                                                                                | 0.89                                                                                | 0.82                                                                                |
| Heavy Vehicles (%)      | 17%                                                                               | 2%                                                                                | 6%                                                                                | 23%                                                                               | 8%                                                                                | 3%                                                                                | 2%                                                                                  | 8%                                                                                  | 8%                                                                                  | 2%                                                                                  | 3%                                                                                  | 2%                                                                                  |
| Adj. Flow (vph)         | 25                                                                                | 35                                                                                | 86                                                                                | 151                                                                               | 75                                                                                | 146                                                                               | 152                                                                                 | 706                                                                                 | 120                                                                                 | 192                                                                                 | 642                                                                                 | 60                                                                                  |
| Shared Lane Traffic (%) |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)   | 25                                                                                | 121                                                                               | 0                                                                                 | 151                                                                               | 221                                                                               | 0                                                                                 | 152                                                                                 | 826                                                                                 | 0                                                                                   | 192                                                                                 | 702                                                                                 | 0                                                                                   |
| Turn Type               | Perm                                                                              | NA                                                                                |                                                                                   | Perm                                                                              | NA                                                                                |                                                                                   | Perm                                                                                | NA                                                                                  |                                                                                     | Perm                                                                                | NA                                                                                  |                                                                                     |
| Protected Phases        |                                                                                   | 4                                                                                 |                                                                                   |                                                                                   | 8                                                                                 |                                                                                   |                                                                                     | 2                                                                                   |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     |
| Permitted Phases        | 4                                                                                 |                                                                                   |                                                                                   | 8                                                                                 |                                                                                   |                                                                                   | 2                                                                                   |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     |                                                                                     |
| Detector Phase          | 4                                                                                 | 4                                                                                 |                                                                                   | 8                                                                                 | 8                                                                                 |                                                                                   | 2                                                                                   | 2                                                                                   |                                                                                     | 6                                                                                   | 6                                                                                   |                                                                                     |
| Switch Phase            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)     | 7.0                                                                               | 7.0                                                                               |                                                                                   | 7.0                                                                               | 7.0                                                                               |                                                                                   | 10.0                                                                                | 10.0                                                                                |                                                                                     | 10.0                                                                                | 10.0                                                                                |                                                                                     |
| Minimum Split (s)       | 12.3                                                                              | 12.3                                                                              |                                                                                   | 12.7                                                                              | 12.7                                                                              |                                                                                   | 34.4                                                                                | 34.4                                                                                |                                                                                     | 15.3                                                                                | 15.3                                                                                |                                                                                     |
| Total Split (s)         | 18.0                                                                              | 18.0                                                                              |                                                                                   | 18.0                                                                              | 18.0                                                                              |                                                                                   | 42.0                                                                                | 42.0                                                                                |                                                                                     | 42.0                                                                                | 42.0                                                                                |                                                                                     |
| Total Split (%)         | 30.0%                                                                             | 30.0%                                                                             |                                                                                   | 30.0%                                                                             | 30.0%                                                                             |                                                                                   | 70.0%                                                                               | 70.0%                                                                               |                                                                                     | 70.0%                                                                               | 70.0%                                                                               |                                                                                     |
| Maximum Green (s)       | 12.7                                                                              | 12.7                                                                              |                                                                                   | 12.3                                                                              | 12.3                                                                              |                                                                                   | 36.6                                                                                | 36.6                                                                                |                                                                                     | 36.7                                                                                | 36.7                                                                                |                                                                                     |
| Yellow Time (s)         | 3.6                                                                               | 3.6                                                                               |                                                                                   | 4.0                                                                               | 4.0                                                                               |                                                                                   | 3.8                                                                                 | 3.8                                                                                 |                                                                                     | 3.6                                                                                 | 3.6                                                                                 |                                                                                     |
| All-Red Time (s)        | 1.7                                                                               | 1.7                                                                               |                                                                                   | 1.7                                                                               | 1.7                                                                               |                                                                                   | 1.6                                                                                 | 1.6                                                                                 |                                                                                     | 1.7                                                                                 | 1.7                                                                                 |                                                                                     |
| Lost Time Adjust (s)    | -0.3                                                                              | -0.3                                                                              |                                                                                   | -0.7                                                                              | -0.7                                                                              |                                                                                   | -0.4                                                                                | -0.4                                                                                |                                                                                     | -0.3                                                                                | -0.3                                                                                |                                                                                     |
| Total Lost Time (s)     | 5.0                                                                               | 5.0                                                                               |                                                                                   | 5.0                                                                               | 5.0                                                                               |                                                                                   | 5.0                                                                                 | 5.0                                                                                 |                                                                                     | 5.0                                                                                 | 5.0                                                                                 |                                                                                     |
| Lead/Lag                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lead-Lag Optimize?      |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Vehicle Extension (s)   | 2.0                                                                               | 2.0                                                                               |                                                                                   | 2.0                                                                               | 2.0                                                                               |                                                                                   | 3.0                                                                                 | 3.0                                                                                 |                                                                                     | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |
| Recall Mode             | None                                                                              | None                                                                              |                                                                                   | None                                                                              | None                                                                              |                                                                                   | Min                                                                                 | Min                                                                                 |                                                                                     | Min                                                                                 | Min                                                                                 |                                                                                     |
| Walk Time (s)           |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 7.0                                                                                 | 7.0                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Flash Dont Walk (s)     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 22.0                                                                                | 22.0                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Pedestrian Calls (#/hr) |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Act Effct Green (s)     | 11.3                                                                              | 11.3                                                                              |                                                                                   | 11.3                                                                              | 11.3                                                                              |                                                                                   | 30.9                                                                                | 30.9                                                                                |                                                                                     | 30.9                                                                                | 30.9                                                                                |                                                                                     |
| Actuated g/C Ratio      | 0.21                                                                              | 0.21                                                                              |                                                                                   | 0.21                                                                              | 0.21                                                                              |                                                                                   | 0.59                                                                                | 0.59                                                                                |                                                                                     | 0.59                                                                                | 0.59                                                                                |                                                                                     |
| v/c Ratio               | 0.12                                                                              | 0.35                                                                              |                                                                                   | 0.67                                                                              | 0.63                                                                              |                                                                                   | 0.48                                                                                | 0.82                                                                                |                                                                                     | 0.86                                                                                | 0.66                                                                                |                                                                                     |
| Control Delay           | 20.8                                                                              | 22.7                                                                              |                                                                                   | 38.8                                                                              | 29.8                                                                              |                                                                                   | 12.7                                                                                | 17.0                                                                                |                                                                                     | 47.9                                                                                | 10.8                                                                                |                                                                                     |
| Queue Delay             | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                                 | 0.0                                                                                 |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |

Lanes, Volumes, Timings  
6: Stallings Rd & Matthews-Indian Trail Rd

Stallings Farms TIA  
2027 Background AM

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Total Delay             | 20.8                                                                              | 22.7                                                                              |                                                                                   | 38.8                                                                              | 29.8                                                                              |                                                                                   | 12.7                                                                                | 17.0                                                                                |                                                                                     | 47.9                                                                                | 10.8                                                                                |                                                                                     |
| LOS                     | C                                                                                 | C                                                                                 |                                                                                   | D                                                                                 | C                                                                                 |                                                                                   | B                                                                                   | B                                                                                   |                                                                                     | D                                                                                   | B                                                                                   |                                                                                     |
| Approach Delay          |                                                                                   | 22.4                                                                              |                                                                                   |                                                                                   | 33.4                                                                              |                                                                                   |                                                                                     | 16.3                                                                                |                                                                                     |                                                                                     | 18.8                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | C                                                                                 |                                                                                   |                                                                                   | C                                                                                 |                                                                                   |                                                                                     | B                                                                                   |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |
| Queue Length 50th (ft)  | 7                                                                                 | 37                                                                                |                                                                                   | 50                                                                                | 73                                                                                |                                                                                   | 25                                                                                  | 188                                                                                 |                                                                                     | 46                                                                                  | 135                                                                                 |                                                                                     |
| Queue Length 95th (ft)  | 22                                                                                | 61                                                                                |                                                                                   | 74                                                                                | 101                                                                               |                                                                                   | 56                                                                                  | 309                                                                                 |                                                                                     | #158                                                                                | 223                                                                                 |                                                                                     |
| Internal Link Dist (ft) |                                                                                   | 1922                                                                              |                                                                                   |                                                                                   | 506                                                                               |                                                                                   |                                                                                     | 1168                                                                                |                                                                                     |                                                                                     | 1421                                                                                |                                                                                     |
| Turn Bay Length (ft)    | 140                                                                               |                                                                                   |                                                                                   | 140                                                                               |                                                                                   |                                                                                   | 120                                                                                 |                                                                                     |                                                                                     | 110                                                                                 |                                                                                     |                                                                                     |
| Base Capacity (vph)     | 241                                                                               | 414                                                                               |                                                                                   | 268                                                                               | 419                                                                               |                                                                                   | 390                                                                                 | 1255                                                                                |                                                                                     | 278                                                                                 | 1329                                                                                |                                                                                     |
| Starvation Cap Reductn  | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     |
| Spillback Cap Reductn   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     |
| Storage Cap Reductn     | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     |
| Reduced v/c Ratio       | 0.10                                                                              | 0.29                                                                              |                                                                                   | 0.56                                                                              | 0.53                                                                              |                                                                                   | 0.39                                                                                | 0.66                                                                                |                                                                                     | 0.69                                                                                | 0.53                                                                                |                                                                                     |

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 52.6

Natural Cycle: 55

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.86

Intersection Signal Delay: 20.3

Intersection LOS: C

Intersection Capacity Utilization 76.6%

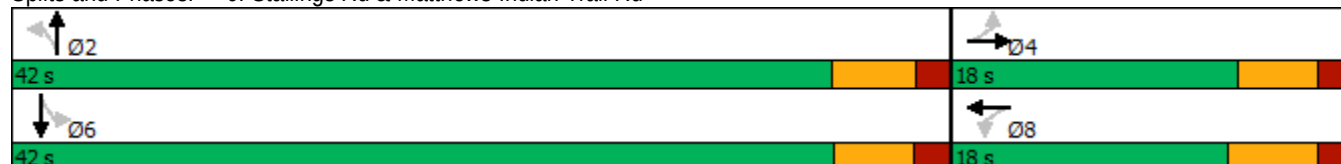
ICU Level of Service D

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

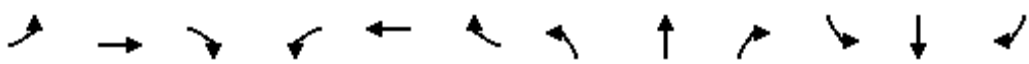
Queue shown is maximum after two cycles.

Splits and Phases: 6: Stallings Rd & Matthews-Indian Trail Rd



Lanes, Volumes, Timings  
7: Mt. Harmony Church Rd & Stevens Mill Rd

Stallings Farms TIA  
2027 Background AM

|                         |  |                                                                                   |      |                                                                                   |                                                                                   |      |      |                                                                                     |      |                                                                                     |                                                                                     |                                                                                     |
|-------------------------|------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|------|-------------------------------------------------------------------------------------|------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                                | EBT                                                                               | EBR  | WBL                                                                               | WBT                                                                               | WBR  | NBL  | NBT                                                                                 | NBR  | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations     |                                                                                    |  |      |  |  |      |      |  |      |  |  |  |
| Traffic Volume (vph)    | 10                                                                                 | 5                                                                                 | 4    | 52                                                                                | 20                                                                                | 343  | 8    | 120                                                                                 | 57   | 166                                                                                 | 82                                                                                  | 20                                                                                  |
| Future Volume (vph)     | 10                                                                                 | 5                                                                                 | 4    | 52                                                                                | 20                                                                                | 343  | 8    | 120                                                                                 | 57   | 166                                                                                 | 82                                                                                  | 20                                                                                  |
| Ideal Flow (vphpl)      | 1900                                                                               | 1900                                                                              | 1900 | 1900                                                                              | 1900                                                                              | 1900 | 1900 | 1900                                                                                | 1900 | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)     | 0                                                                                  |                                                                                   | 0    | 125                                                                               |                                                                                   | 0    | 0    |                                                                                     | 0    | 150                                                                                 |                                                                                     | 0                                                                                   |
| Storage Lanes           | 0                                                                                  |                                                                                   | 0    | 1                                                                                 |                                                                                   | 0    | 0    |                                                                                     | 0    | 1                                                                                   |                                                                                     | 0                                                                                   |
| Taper Length (ft)       | 25                                                                                 |                                                                                   |      | 125                                                                               |                                                                                   |      | 25   |                                                                                     |      | 100                                                                                 |                                                                                     |                                                                                     |
| Lane Util. Factor       | 1.00                                                                               | 1.00                                                                              | 1.00 | 1.00                                                                              | 1.00                                                                              | 1.00 | 1.00 | 1.00                                                                                | 1.00 | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Frt                     |                                                                                    | 0.957                                                                             |      |                                                                                   | 0.859                                                                             |      |      | 0.958                                                                               |      |                                                                                     | 0.965                                                                               |                                                                                     |
| Flt Protected           |                                                                                    | 0.979                                                                             |      | 0.950                                                                             |                                                                                   |      |      | 0.996                                                                               |      | 0.950                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (prot)       | 0                                                                                  | 1351                                                                              | 0    | 1752                                                                              | 1483                                                                              | 0    | 0    | 1751                                                                                | 0    | 1770                                                                                | 1754                                                                                | 0                                                                                   |
| Flt Permitted           |                                                                                    | 0.979                                                                             |      | 0.950                                                                             |                                                                                   |      |      | 0.996                                                                               |      | 0.950                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (perm)       | 0                                                                                  | 1351                                                                              | 0    | 1752                                                                              | 1483                                                                              | 0    | 0    | 1751                                                                                | 0    | 1770                                                                                | 1754                                                                                | 0                                                                                   |
| Link Speed (mph)        |                                                                                    | 35                                                                                |      |                                                                                   | 35                                                                                |      |      | 35                                                                                  |      |                                                                                     | 35                                                                                  |                                                                                     |
| Link Distance (ft)      |                                                                                    | 831                                                                               |      |                                                                                   | 703                                                                               |      |      | 907                                                                                 |      |                                                                                     | 461                                                                                 |                                                                                     |
| Travel Time (s)         |                                                                                    | 16.2                                                                              |      |                                                                                   | 13.7                                                                              |      |      | 17.7                                                                                |      |                                                                                     | 9.0                                                                                 |                                                                                     |
| Peak Hour Factor        | 0.48                                                                               | 0.38                                                                              | 0.25 | 0.60                                                                              | 0.69                                                                              | 0.76 | 0.38 | 0.65                                                                                | 0.62 | 0.65                                                                                | 0.70                                                                                | 0.57                                                                                |
| Heavy Vehicles (%)      | 17%                                                                                | 33%                                                                               | 50%  | 3%                                                                                | 57%                                                                               | 7%   | 2%   | 2%                                                                                  | 7%   | 2%                                                                                  | 2%                                                                                  | 13%                                                                                 |
| Adj. Flow (vph)         | 21                                                                                 | 13                                                                                | 16   | 87                                                                                | 29                                                                                | 451  | 21   | 185                                                                                 | 92   | 255                                                                                 | 117                                                                                 | 35                                                                                  |
| Shared Lane Traffic (%) |                                                                                    |                                                                                   |      |                                                                                   |                                                                                   |      |      |                                                                                     |      |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)   | 0                                                                                  | 50                                                                                | 0    | 87                                                                                | 480                                                                               | 0    | 0    | 298                                                                                 | 0    | 255                                                                                 | 152                                                                                 | 0                                                                                   |
| Sign Control            |                                                                                    | Stop                                                                              |      |                                                                                   | Stop                                                                              |      |      | Free                                                                                |      |                                                                                     | Free                                                                                |                                                                                     |

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 51.7% ICU Level of Service A

Analysis Period (min) 15

# HCM Unsignalized Intersection Capacity Analysis

## 7: Mt. Harmony Church Rd & Stevens Mill Rd

Stallings Farms TIA  
2027 Background AM

|                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                                   |  |  |  |  |  |  |  |  |  |  |  |  |
| Movement                          | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |                                                                                   |  |                                                                                   |  |  |                                                                                   |                                                                                     |  |                                                                                     |  |  |                                                                                     |
| Traffic Volume (veh/h)            | 10                                                                                | 5                                                                                 | 4                                                                                 | 52                                                                                | 20                                                                                | 343                                                                               | 8                                                                                   | 120                                                                                 | 57                                                                                  | 166                                                                                 | 82                                                                                  | 20                                                                                  |
| Future Volume (Veh/h)             | 10                                                                                | 5                                                                                 | 4                                                                                 | 52                                                                                | 20                                                                                | 343                                                                               | 8                                                                                   | 120                                                                                 | 57                                                                                  | 166                                                                                 | 82                                                                                  | 20                                                                                  |
| Sign Control                      |                                                                                   | Stop                                                                              |                                                                                   |                                                                                   | Stop                                                                              |                                                                                   |                                                                                     | Free                                                                                |                                                                                     |                                                                                     | Free                                                                                |                                                                                     |
| Grade                             |                                                                                   | 0%                                                                                |                                                                                   |                                                                                   | 0%                                                                                |                                                                                   |                                                                                     | 0%                                                                                  |                                                                                     |                                                                                     | 0%                                                                                  |                                                                                     |
| Peak Hour Factor                  | 0.48                                                                              | 0.38                                                                              | 0.25                                                                              | 0.60                                                                              | 0.69                                                                              | 0.76                                                                              | 0.38                                                                                | 0.65                                                                                | 0.62                                                                                | 0.65                                                                                | 0.70                                                                                | 0.57                                                                                |
| Hourly flow rate (vph)            | 21                                                                                | 13                                                                                | 16                                                                                | 87                                                                                | 29                                                                                | 451                                                                               | 21                                                                                  | 185                                                                                 | 92                                                                                  | 255                                                                                 | 117                                                                                 | 35                                                                                  |
| Pedestrians                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Width (ft)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Walking Speed (ft/s)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Percent Blockage                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Right turn flare (veh)            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Median type                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     | None                                                                                |                                                                                     |                                                                                     | None                                                                                |                                                                                     |
| Median storage veh)               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Upstream signal (ft)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| pX, platoon unblocked             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| vC, conflicting volume            | 1383                                                                              | 964                                                                               | 134                                                                               | 922                                                                               | 935                                                                               | 231                                                                               | 152                                                                                 |                                                                                     |                                                                                     | 277                                                                                 |                                                                                     |                                                                                     |
| vC1, stage 1 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| vC2, stage 2 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| vCu, unblocked vol                | 1383                                                                              | 964                                                                               | 134                                                                               | 922                                                                               | 935                                                                               | 231                                                                               | 152                                                                                 |                                                                                     |                                                                                     | 277                                                                                 |                                                                                     |                                                                                     |
| tC, single (s)                    | 7.3                                                                               | 6.8                                                                               | 6.7                                                                               | 7.1                                                                               | 7.1                                                                               | 6.3                                                                               | 4.1                                                                                 |                                                                                     |                                                                                     | 4.1                                                                                 |                                                                                     |                                                                                     |
| tC, 2 stage (s)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| tF (s)                            | 3.7                                                                               | 4.3                                                                               | 3.8                                                                               | 3.5                                                                               | 4.5                                                                               | 3.4                                                                               | 2.2                                                                                 |                                                                                     |                                                                                     | 2.2                                                                                 |                                                                                     |                                                                                     |
| p0 queue free %                   | 41                                                                                | 93                                                                                | 98                                                                                | 55                                                                                | 83                                                                                | 43                                                                                | 99                                                                                  |                                                                                     |                                                                                     | 80                                                                                  |                                                                                     |                                                                                     |
| cM capacity (veh/h)               | 36                                                                                | 179                                                                               | 801                                                                               | 194                                                                               | 171                                                                               | 796                                                                               | 1429                                                                                |                                                                                     |                                                                                     | 1286                                                                                |                                                                                     |                                                                                     |
| Direction, Lane #                 | EB 1                                                                              | WB 1                                                                              | WB 2                                                                              | NB 1                                                                              | SB 1                                                                              | SB 2                                                                              |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Total                      | 50                                                                                | 87                                                                                | 480                                                                               | 298                                                                               | 255                                                                               | 152                                                                               |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Left                       | 21                                                                                | 87                                                                                | 0                                                                                 | 21                                                                                | 255                                                                               | 0                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Right                      | 16                                                                                | 0                                                                                 | 451                                                                               | 92                                                                                | 0                                                                                 | 35                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| cSH                               | 73                                                                                | 194                                                                               | 652                                                                               | 1429                                                                              | 1286                                                                              | 1700                                                                              |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume to Capacity                | 0.68                                                                              | 0.45                                                                              | 0.74                                                                              | 0.01                                                                              | 0.20                                                                              | 0.09                                                                              |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Queue Length 95th (ft)            | 78                                                                                | 53                                                                                | 161                                                                               | 1                                                                                 | 18                                                                                | 0                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Control Delay (s)                 | 124.5                                                                             | 37.8                                                                              | 24.4                                                                              | 0.7                                                                               | 8.5                                                                               | 0.0                                                                               |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane LOS                          | F                                                                                 | E                                                                                 | C                                                                                 | A                                                                                 | A                                                                                 |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Approach Delay (s)                | 124.5                                                                             | 26.4                                                                              |                                                                                   | 0.7                                                                               | 5.3                                                                               |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Approach LOS                      | F                                                                                 | D                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Average Delay                     |                                                                                   |                                                                                   | 17.8                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 51.7%                                                                             |                                                                                   |                                                                                   | ICU Level of Service                                                              | A                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

Lanes, Volumes, Timings  
8: Oakspring Rd & Stevens Mill Rd

Stallings Farms TIA  
2027 Background AM

|                                   |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group                        | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | NBL                                                                               | NBR                                                                               |
| Lane Configurations               |  |                                                                                   |                                                                                   |  |  |  |
| Traffic Volume (vph)              | 295                                                                               | 383                                                                               | 182                                                                               | 624                                                                               | 295                                                                               | 96                                                                                |
| Future Volume (vph)               | 295                                                                               | 383                                                                               | 182                                                                               | 624                                                                               | 295                                                                               | 96                                                                                |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Storage Length (ft)               |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 100                                                                               |
| Storage Lanes                     |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 1                                                                                 | 1                                                                                 |
| Taper Length (ft)                 |                                                                                   |                                                                                   | 25                                                                                |                                                                                   | 25                                                                                |                                                                                   |
| Lane Util. Factor                 | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Frt                               | 0.936                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.850                                                                             |
| Flt Protected                     |                                                                                   |                                                                                   |                                                                                   | 0.990                                                                             | 0.950                                                                             |                                                                                   |
| Satd. Flow (prot)                 | 1726                                                                              | 0                                                                                 | 0                                                                                 | 1844                                                                              | 1719                                                                              | 1442                                                                              |
| Flt Permitted                     |                                                                                   |                                                                                   |                                                                                   | 0.990                                                                             | 0.950                                                                             |                                                                                   |
| Satd. Flow (perm)                 | 1726                                                                              | 0                                                                                 | 0                                                                                 | 1844                                                                              | 1719                                                                              | 1442                                                                              |
| Link Speed (mph)                  | 45                                                                                |                                                                                   |                                                                                   | 45                                                                                | 35                                                                                |                                                                                   |
| Link Distance (ft)                | 940                                                                               |                                                                                   |                                                                                   | 594                                                                               | 925                                                                               |                                                                                   |
| Travel Time (s)                   | 14.2                                                                              |                                                                                   |                                                                                   | 9.0                                                                               | 18.0                                                                              |                                                                                   |
| Peak Hour Factor                  | 0.59                                                                              | 0.86                                                                              | 0.81                                                                              | 0.74                                                                              | 0.90                                                                              | 0.80                                                                              |
| Heavy Vehicles (%)                | 4%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                | 5%                                                                                | 12%                                                                               |
| Adj. Flow (vph)                   | 500                                                                               | 445                                                                               | 225                                                                               | 843                                                                               | 328                                                                               | 120                                                                               |
| Shared Lane Traffic (%)           |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)             | 945                                                                               | 0                                                                                 | 0                                                                                 | 1068                                                                              | 328                                                                               | 120                                                                               |
| Sign Control                      | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              | Stop                                                                              |                                                                                   |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Area Type:                        | Other                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Control Type:                     | Unsignalized                                                                      |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization | 108.2%                                                                            |                                                                                   |                                                                                   | ICU Level of Service G                                                            |                                                                                   |                                                                                   |
| Analysis Period (min)             | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |

# HCM Unsignalized Intersection Capacity Analysis

## 8: Oakspring Rd & Stevens Mill Rd

Stallings Farms TIA  
2027 Background AM

|                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|                                   |  |  |  |  |  |  |
| Movement                          | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | NBL                                                                               | NBR                                                                               |
| Lane Configurations               |  |                                                                                   |                                                                                   |  |  |  |
| Traffic Volume (veh/h)            | 295                                                                               | 383                                                                               | 182                                                                               | 624                                                                               | 295                                                                               | 96                                                                                |
| Future Volume (Veh/h)             | 295                                                                               | 383                                                                               | 182                                                                               | 624                                                                               | 295                                                                               | 96                                                                                |
| Sign Control                      | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              | Stop                                                                              |                                                                                   |
| Grade                             | 0%                                                                                |                                                                                   |                                                                                   | 0%                                                                                | 0%                                                                                |                                                                                   |
| Peak Hour Factor                  | 0.59                                                                              | 0.86                                                                              | 0.81                                                                              | 0.74                                                                              | 0.90                                                                              | 0.80                                                                              |
| Hourly flow rate (vph)            | 500                                                                               | 445                                                                               | 225                                                                               | 843                                                                               | 328                                                                               | 120                                                                               |
| Pedestrians                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Width (ft)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Walking Speed (ft/s)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Percent Blockage                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Right turn flare (veh)            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 4                                                                                 |
| Median type                       | None                                                                              |                                                                                   |                                                                                   | None                                                                              |                                                                                   |                                                                                   |
| Median storage veh)               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Upstream signal (ft)              | 940                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| pX, platoon unblocked             |                                                                                   |                                                                                   | 0.80                                                                              |                                                                                   | 0.80                                                                              | 0.80                                                                              |
| vC, conflicting volume            |                                                                                   |                                                                                   | 945                                                                               |                                                                                   | 2016                                                                              | 722                                                                               |
| vC1, stage 1 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC2, stage 2 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vCu, unblocked vol                |                                                                                   |                                                                                   | 807                                                                               |                                                                                   | 2144                                                                              | 529                                                                               |
| tC, single (s)                    |                                                                                   |                                                                                   | 4.1                                                                               |                                                                                   | 6.4                                                                               | 6.3                                                                               |
| tC, 2 stage (s)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| tF (s)                            |                                                                                   |                                                                                   | 2.2                                                                               |                                                                                   | 3.5                                                                               | 3.4                                                                               |
| p0 queue free %                   |                                                                                   |                                                                                   | 66                                                                                |                                                                                   | 0                                                                                 | 72                                                                                |
| cM capacity (veh/h)               |                                                                                   |                                                                                   | 655                                                                               |                                                                                   | 28                                                                                | 425                                                                               |
| Direction, Lane #                 | EB 1                                                                              | WB 1                                                                              | NB 1                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Volume Total                      | 945                                                                               | 1068                                                                              | 448                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Volume Left                       | 0                                                                                 | 225                                                                               | 328                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Volume Right                      | 445                                                                               | 0                                                                                 | 120                                                                               |                                                                                   |                                                                                   |                                                                                   |
| cSH                               | 1700                                                                              | 655                                                                               | 37                                                                                |                                                                                   |                                                                                   |                                                                                   |
| Volume to Capacity                | 0.56                                                                              | 0.34                                                                              | 12.18                                                                             |                                                                                   |                                                                                   |                                                                                   |
| Queue Length 95th (ft)            | 0                                                                                 | 38                                                                                | Err                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Control Delay (s)                 | 0.0                                                                               | 10.0                                                                              | Err                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Lane LOS                          |                                                                                   | A                                                                                 | F                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| Approach Delay (s)                | 0.0                                                                               | 10.0                                                                              | Err                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Approach LOS                      |                                                                                   |                                                                                   | F                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Average Delay                     |                                                                                   | 1824.5                                                                            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization |                                                                                   | 108.2%                                                                            | ICU Level of Service                                                              | G                                                                                 |                                                                                   |                                                                                   |
| Analysis Period (min)             |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |



Lanes, Volumes, Timings  
1: Stallings Rd & Stevens Mill Rd

Stallings Farms TIA  
2027 Background PM

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|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations     |                                                                                   |  |  |                                                                                   |  |  |  |  |                                                                                     |  |  |                                                                                     |
| Traffic Volume (vph)    | 17                                                                                | 217                                                                               | 77                                                                                | 179                                                                               | 72                                                                                | 108                                                                               | 82                                                                                  | 195                                                                                 | 328                                                                                 | 356                                                                                 | 195                                                                                 | 25                                                                                  |
| Future Volume (vph)     | 17                                                                                | 217                                                                               | 77                                                                                | 179                                                                               | 72                                                                                | 108                                                                               | 82                                                                                  | 195                                                                                 | 328                                                                                 | 356                                                                                 | 195                                                                                 | 25                                                                                  |
| Ideal Flow (vphpl)      | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)     | 0                                                                                 |                                                                                   | 100                                                                               | 0                                                                                 |                                                                                   | 300                                                                               | 150                                                                                 |                                                                                     | 250                                                                                 | 225                                                                                 |                                                                                     | 0                                                                                   |
| Storage Lanes           | 0                                                                                 |                                                                                   | 1                                                                                 | 0                                                                                 |                                                                                   | 1                                                                                 | 1                                                                                   |                                                                                     | 0                                                                                   | 1                                                                                   |                                                                                     | 0                                                                                   |
| Taper Length (ft)       | 25                                                                                |                                                                                   |                                                                                   | 25                                                                                |                                                                                   |                                                                                   | 100                                                                                 |                                                                                     |                                                                                     | 100                                                                                 |                                                                                     |                                                                                     |
| Lane Util. Factor       | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Ped Bike Factor         |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.98                                                                              |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Frt                     |                                                                                   |                                                                                   | 0.850                                                                             |                                                                                   |                                                                                   | 0.850                                                                             |                                                                                     | 0.906                                                                               |                                                                                     |                                                                                     | 0.983                                                                               |                                                                                     |
| Flt Protected           |                                                                                   | 0.996                                                                             |                                                                                   |                                                                                   | 0.966                                                                             |                                                                                   | 0.950                                                                               |                                                                                     |                                                                                     | 0.950                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (prot)       | 0                                                                                 | 1839                                                                              | 1583                                                                              | 0                                                                                 | 1762                                                                              | 1583                                                                              | 1671                                                                                | 1681                                                                                | 0                                                                                   | 1687                                                                                | 1815                                                                                | 0                                                                                   |
| Flt Permitted           |                                                                                   | 0.960                                                                             |                                                                                   |                                                                                   | 0.526                                                                             |                                                                                   | 0.607                                                                               |                                                                                     |                                                                                     | 0.342                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (perm)       | 0                                                                                 | 1772                                                                              | 1583                                                                              | 0                                                                                 | 960                                                                               | 1550                                                                              | 1068                                                                                | 1681                                                                                | 0                                                                                   | 607                                                                                 | 1815                                                                                | 0                                                                                   |
| Right Turn on Red       |                                                                                   |                                                                                   | No                                                                                |                                                                                   |                                                                                   | No                                                                                |                                                                                     |                                                                                     | No                                                                                  |                                                                                     |                                                                                     | No                                                                                  |
| Satd. Flow (RTOR)       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Link Speed (mph)        |                                                                                   | 45                                                                                |                                                                                   |                                                                                   | 45                                                                                |                                                                                   |                                                                                     | 45                                                                                  |                                                                                     |                                                                                     | 45                                                                                  |                                                                                     |
| Link Distance (ft)      |                                                                                   | 1672                                                                              |                                                                                   |                                                                                   | 940                                                                               |                                                                                   |                                                                                     | 1668                                                                                |                                                                                     |                                                                                     | 1502                                                                                |                                                                                     |
| Travel Time (s)         |                                                                                   | 25.3                                                                              |                                                                                   |                                                                                   | 14.2                                                                              |                                                                                   |                                                                                     | 25.3                                                                                |                                                                                     |                                                                                     | 22.8                                                                                |                                                                                     |
| Confl. Bikes (#/hr)     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Peak Hour Factor        | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                |
| Heavy Vehicles (%)      | 2%                                                                                | 3%                                                                                | 2%                                                                                | 5%                                                                                | 2%                                                                                | 2%                                                                                | 8%                                                                                  | 3%                                                                                  | 2%                                                                                  | 7%                                                                                  | 3%                                                                                  | 2%                                                                                  |
| Adj. Flow (vph)         | 19                                                                                | 241                                                                               | 86                                                                                | 199                                                                               | 80                                                                                | 120                                                                               | 91                                                                                  | 217                                                                                 | 364                                                                                 | 396                                                                                 | 217                                                                                 | 28                                                                                  |
| Shared Lane Traffic (%) |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)   | 0                                                                                 | 260                                                                               | 86                                                                                | 0                                                                                 | 279                                                                               | 120                                                                               | 91                                                                                  | 581                                                                                 | 0                                                                                   | 396                                                                                 | 245                                                                                 | 0                                                                                   |
| Turn Type               | Perm                                                                              | NA                                                                                | Perm                                                                              | Perm                                                                              | NA                                                                                | Perm                                                                              | Perm                                                                                | NA                                                                                  |                                                                                     | Perm                                                                                | NA                                                                                  |                                                                                     |
| Protected Phases        |                                                                                   | 4                                                                                 |                                                                                   |                                                                                   | 8                                                                                 |                                                                                   |                                                                                     | 2                                                                                   |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     |
| Permitted Phases        | 4                                                                                 |                                                                                   | 4                                                                                 | 8                                                                                 |                                                                                   | 8                                                                                 | 2                                                                                   |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     |                                                                                     |
| Detector Phase          | 4                                                                                 | 4                                                                                 | 4                                                                                 | 8                                                                                 | 8                                                                                 | 8                                                                                 | 2                                                                                   | 2                                                                                   |                                                                                     | 6                                                                                   | 6                                                                                   |                                                                                     |
| Switch Phase            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)     | 12.0                                                                              | 12.0                                                                              | 12.0                                                                              | 7.0                                                                               | 7.0                                                                               | 7.0                                                                               | 12.0                                                                                | 12.0                                                                                |                                                                                     | 7.0                                                                                 | 7.0                                                                                 |                                                                                     |
| Minimum Split (s)       | 25.0                                                                              | 25.0                                                                              | 25.0                                                                              | 25.0                                                                              | 25.0                                                                              | 25.0                                                                              | 25.0                                                                                | 25.0                                                                                |                                                                                     | 25.0                                                                                | 25.0                                                                                |                                                                                     |
| Total Split (s)         | 25.0                                                                              | 25.0                                                                              | 25.0                                                                              | 25.0                                                                              | 25.0                                                                              | 25.0                                                                              | 45.0                                                                                | 45.0                                                                                |                                                                                     | 45.0                                                                                | 45.0                                                                                |                                                                                     |
| Total Split (%)         | 35.7%                                                                             | 35.7%                                                                             | 35.7%                                                                             | 35.7%                                                                             | 35.7%                                                                             | 35.7%                                                                             | 64.3%                                                                               | 64.3%                                                                               |                                                                                     | 64.3%                                                                               | 64.3%                                                                               |                                                                                     |
| Maximum Green (s)       | 18.0                                                                              | 18.0                                                                              | 18.0                                                                              | 18.0                                                                              | 18.0                                                                              | 18.0                                                                              | 38.0                                                                                | 38.0                                                                                |                                                                                     | 38.0                                                                                | 38.0                                                                                |                                                                                     |
| Yellow Time (s)         | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                                 | 5.0                                                                                 |                                                                                     | 5.0                                                                                 | 5.0                                                                                 |                                                                                     |
| All-Red Time (s)        | 2.0                                                                               | 2.0                                                                               | 2.0                                                                               | 2.0                                                                               | 2.0                                                                               | 2.0                                                                               | 2.0                                                                                 | 2.0                                                                                 |                                                                                     | 2.0                                                                                 | 2.0                                                                                 |                                                                                     |
| Lost Time Adjust (s)    |                                                                                   | -2.0                                                                              | -2.0                                                                              |                                                                                   | -2.0                                                                              | -2.0                                                                              | -2.0                                                                                | -2.0                                                                                |                                                                                     | -2.0                                                                                | -2.0                                                                                |                                                                                     |
| Total Lost Time (s)     |                                                                                   | 5.0                                                                               | 5.0                                                                               |                                                                                   | 5.0                                                                               | 5.0                                                                               | 5.0                                                                                 | 5.0                                                                                 |                                                                                     | 5.0                                                                                 | 5.0                                                                                 |                                                                                     |
| Lead/Lag                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lead-Lag Optimize?      |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Vehicle Extension (s)   | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                                 | 3.0                                                                                 |                                                                                     | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |
| Recall Mode             | None                                                                              | None                                                                              | None                                                                              | None                                                                              | None                                                                              | None                                                                              | Min                                                                                 | Min                                                                                 |                                                                                     | Min                                                                                 | Min                                                                                 |                                                                                     |
| Walk Time (s)           | 7.0                                                                               | 7.0                                                                               | 7.0                                                                               | 7.0                                                                               | 7.0                                                                               | 7.0                                                                               | 7.0                                                                                 | 7.0                                                                                 |                                                                                     | 7.0                                                                                 | 7.0                                                                                 |                                                                                     |
| Flash Dont Walk (s)     | 11.0                                                                              | 11.0                                                                              | 11.0                                                                              | 11.0                                                                              | 11.0                                                                              | 11.0                                                                              | 11.0                                                                                | 11.0                                                                                |                                                                                     | 11.0                                                                                | 11.0                                                                                |                                                                                     |
| Pedestrian Calls (#/hr) | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     |
| Act Effct Green (s)     |                                                                                   | 20.0                                                                              | 20.0                                                                              |                                                                                   | 20.0                                                                              | 20.0                                                                              | 40.0                                                                                | 40.0                                                                                |                                                                                     | 40.0                                                                                | 40.0                                                                                |                                                                                     |
| Actuated g/C Ratio      |                                                                                   | 0.29                                                                              | 0.29                                                                              |                                                                                   | 0.29                                                                              | 0.29                                                                              | 0.57                                                                                | 0.57                                                                                |                                                                                     | 0.57                                                                                | 0.57                                                                                |                                                                                     |
| v/c Ratio               |                                                                                   | 0.51                                                                              | 0.19                                                                              |                                                                                   | 1.02                                                                              | 0.27                                                                              | 0.15                                                                                | 0.61                                                                                |                                                                                     | 1.14                                                                                | 0.24                                                                                |                                                                                     |

Lanes, Volumes, Timings  
1: Stallings Rd & Stevens Mill Rd

Stallings Farms TIA  
2027 Background PM

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Control Delay           |                                                                                   | 25.2                                                                              | 20.3                                                                              |                                                                                   | 88.7                                                                              | 21.4                                                                              | 7.8                                                                                | 13.2                                                                                |                                                                                     | 114.1                                                                               | 8.2                                                                                 |                                                                                     |
| Queue Delay             |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                | 0.0                                                                                 |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Delay             |                                                                                   | 25.2                                                                              | 20.3                                                                              |                                                                                   | 88.7                                                                              | 21.4                                                                              | 7.8                                                                                | 13.2                                                                                |                                                                                     | 114.1                                                                               | 8.2                                                                                 |                                                                                     |
| LOS                     |                                                                                   | C                                                                                 | C                                                                                 |                                                                                   | F                                                                                 | C                                                                                 | A                                                                                  | B                                                                                   |                                                                                     | F                                                                                   | A                                                                                   |                                                                                     |
| Approach Delay          |                                                                                   | 24.0                                                                              |                                                                                   |                                                                                   | 68.5                                                                              |                                                                                   |                                                                                    | 12.5                                                                                |                                                                                     |                                                                                     | 73.6                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | C                                                                                 |                                                                                   |                                                                                   | E                                                                                 |                                                                                   |                                                                                    | B                                                                                   |                                                                                     |                                                                                     | E                                                                                   |                                                                                     |
| Queue Length 50th (ft)  |                                                                                   | 93                                                                                | 28                                                                                |                                                                                   | ~123                                                                              | 40                                                                                | 17                                                                                 | 148                                                                                 |                                                                                     | ~204                                                                                | 47                                                                                  |                                                                                     |
| Queue Length 95th (ft)  |                                                                                   | 161                                                                               | 61                                                                                |                                                                                   | #267                                                                              | 80                                                                                | 37                                                                                 | 243                                                                                 |                                                                                     | #362                                                                                | 82                                                                                  |                                                                                     |
| Internal Link Dist (ft) |                                                                                   | 1592                                                                              |                                                                                   |                                                                                   | 860                                                                               |                                                                                   |                                                                                    | 1588                                                                                |                                                                                     |                                                                                     | 1422                                                                                |                                                                                     |
| Turn Bay Length (ft)    |                                                                                   |                                                                                   | 100                                                                               |                                                                                   |                                                                                   | 300                                                                               | 150                                                                                |                                                                                     |                                                                                     | 225                                                                                 |                                                                                     |                                                                                     |
| Base Capacity (vph)     |                                                                                   | 506                                                                               | 452                                                                               |                                                                                   | 274                                                                               | 442                                                                               | 610                                                                                | 960                                                                                 |                                                                                     | 346                                                                                 | 1037                                                                                |                                                                                     |
| Starvation Cap Reductn  |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 | 0                                                                                  | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     |
| Spillback Cap Reductn   |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 | 0                                                                                  | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     |
| Storage Cap Reductn     |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 | 0                                                                                  | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     |
| Reduced v/c Ratio       |                                                                                   | 0.51                                                                              | 0.19                                                                              |                                                                                   | 1.02                                                                              | 0.27                                                                              | 0.15                                                                               | 0.61                                                                                |                                                                                     | 1.14                                                                                | 0.24                                                                                |                                                                                     |

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Natural Cycle: 75

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.14

Intersection Signal Delay: 44.3

Intersection LOS: D

Intersection Capacity Utilization 92.8%

ICU Level of Service F

Analysis Period (min) 15

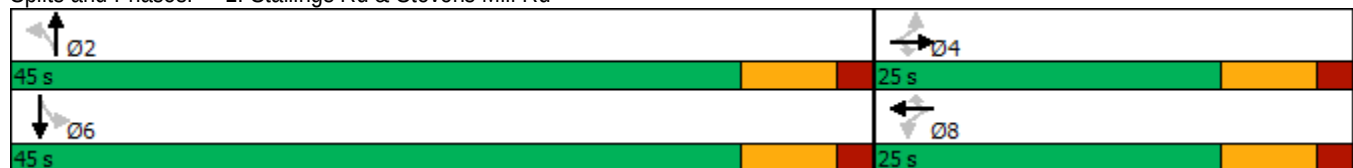
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: Stallings Rd & Stevens Mill Rd



Lanes, Volumes, Timings  
2: Stallings Rd & Sweet Birch Dr

Stallings Farms TIA  
2027 Background PM

|                                   |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group                        | WBL                                                                               | WBR                                                                               | NBT                                                                               | NBR                                                                               | SBL                                                                               | SBT                                                                               |
| Lane Configurations               |  |                                                                                   |  |                                                                                   |                                                                                   |  |
| Traffic Volume (vph)              | 22                                                                                | 29                                                                                | 576                                                                               | 38                                                                                | 51                                                                                | 400                                                                               |
| Future Volume (vph)               | 22                                                                                | 29                                                                                | 576                                                                               | 38                                                                                | 51                                                                                | 400                                                                               |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Lane Util. Factor                 | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Frt                               | 0.923                                                                             |                                                                                   | 0.992                                                                             |                                                                                   |                                                                                   |                                                                                   |
| Flt Protected                     | 0.979                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.994                                                                             |
| Satd. Flow (prot)                 | 1683                                                                              | 0                                                                                 | 1831                                                                              | 0                                                                                 | 0                                                                                 | 1820                                                                              |
| Flt Permitted                     | 0.979                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.994                                                                             |
| Satd. Flow (perm)                 | 1683                                                                              | 0                                                                                 | 1831                                                                              | 0                                                                                 | 0                                                                                 | 1820                                                                              |
| Link Speed (mph)                  | 25                                                                                |                                                                                   | 45                                                                                |                                                                                   |                                                                                   | 45                                                                                |
| Link Distance (ft)                | 597                                                                               |                                                                                   | 2030                                                                              |                                                                                   |                                                                                   | 1668                                                                              |
| Travel Time (s)                   | 16.3                                                                              |                                                                                   | 30.8                                                                              |                                                                                   |                                                                                   | 25.3                                                                              |
| Peak Hour Factor                  | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              |
| Heavy Vehicles (%)                | 2%                                                                                | 2%                                                                                | 3%                                                                                | 2%                                                                                | 2%                                                                                | 4%                                                                                |
| Adj. Flow (vph)                   | 24                                                                                | 32                                                                                | 640                                                                               | 42                                                                                | 57                                                                                | 444                                                                               |
| Shared Lane Traffic (%)           |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)             | 56                                                                                | 0                                                                                 | 682                                                                               | 0                                                                                 | 0                                                                                 | 501                                                                               |
| Sign Control                      | Stop                                                                              |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Area Type:                        | Other                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Control Type:                     | Unsignalized                                                                      |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization | 69.8%                                                                             |                                                                                   |                                                                                   | ICU Level of Service C                                                            |                                                                                   |                                                                                   |
| Analysis Period (min)             | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |

# HCM Unsignalized Intersection Capacity Analysis

## 2: Stallings Rd & Sweet Birch Dr

Stallings Farms TIA  
2027 Background PM

|                                   |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Movement                          | WBL                                                                               | WBR                                                                               | NBT                                                                               | NBR                                                                               | SBL                                                                               | SBT                                                                               |
| Lane Configurations               |  |                                                                                   |  |                                                                                   |                                                                                   |  |
| Traffic Volume (veh/h)            | 22                                                                                | 29                                                                                | 576                                                                               | 38                                                                                | 51                                                                                | 400                                                                               |
| Future Volume (Veh/h)             | 22                                                                                | 29                                                                                | 576                                                                               | 38                                                                                | 51                                                                                | 400                                                                               |
| Sign Control                      | Stop                                                                              |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              |
| Grade                             | 0%                                                                                |                                                                                   | 0%                                                                                |                                                                                   |                                                                                   | 0%                                                                                |
| Peak Hour Factor                  | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              |
| Hourly flow rate (vph)            | 24                                                                                | 32                                                                                | 640                                                                               | 42                                                                                | 57                                                                                | 444                                                                               |
| Pedestrians                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Width (ft)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Walking Speed (ft/s)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Percent Blockage                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Right turn flare (veh)            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Median type                       |                                                                                   |                                                                                   | None                                                                              |                                                                                   |                                                                                   | None                                                                              |
| Median storage (veh)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Upstream signal (ft)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| pX, platoon unblocked             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC, conflicting volume            | 1219                                                                              | 661                                                                               |                                                                                   |                                                                                   | 682                                                                               |                                                                                   |
| vC1, stage 1 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC2, stage 2 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vCu, unblocked vol                | 1219                                                                              | 661                                                                               |                                                                                   |                                                                                   | 682                                                                               |                                                                                   |
| tC, single (s)                    | 6.4                                                                               | 6.2                                                                               |                                                                                   |                                                                                   | 4.1                                                                               |                                                                                   |
| tC, 2 stage (s)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| tF (s)                            | 3.5                                                                               | 3.3                                                                               |                                                                                   |                                                                                   | 2.2                                                                               |                                                                                   |
| p0 queue free %                   | 87                                                                                | 93                                                                                |                                                                                   |                                                                                   | 94                                                                                |                                                                                   |
| cM capacity (veh/h)               | 187                                                                               | 462                                                                               |                                                                                   |                                                                                   | 911                                                                               |                                                                                   |
| Direction, Lane #                 | WB 1                                                                              | NB 1                                                                              | SB 1                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Volume Total                      | 56                                                                                | 682                                                                               | 501                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Volume Left                       | 24                                                                                | 0                                                                                 | 57                                                                                |                                                                                   |                                                                                   |                                                                                   |
| Volume Right                      | 32                                                                                | 42                                                                                | 0                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| cSH                               | 283                                                                               | 1700                                                                              | 911                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Volume to Capacity                | 0.20                                                                              | 0.40                                                                              | 0.06                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Queue Length 95th (ft)            | 18                                                                                | 0                                                                                 | 5                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| Control Delay (s)                 | 20.8                                                                              | 0.0                                                                               | 1.7                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Lane LOS                          | C                                                                                 |                                                                                   | A                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| Approach Delay (s)                | 20.8                                                                              | 0.0                                                                               | 1.7                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Approach LOS                      | C                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Average Delay                     |                                                                                   | 1.6                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization |                                                                                   | 69.8%                                                                             |                                                                                   | ICU Level of Service                                                              |                                                                                   | C                                                                                 |
| Analysis Period (min)             |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |

Lanes, Volumes, Timings  
3: Nouvelle Dr & Sweet Birch Dr

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|                                   |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group                        | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | NBL                                                                               | NBR                                                                               |
| Lane Configurations               |  |                                                                                   |                                                                                   |  |  |  |
| Traffic Volume (vph)              | 81                                                                                | 8                                                                                 | 4                                                                                 | 47                                                                                | 4                                                                                 | 4                                                                                 |
| Future Volume (vph)               | 81                                                                                | 8                                                                                 | 4                                                                                 | 47                                                                                | 4                                                                                 | 4                                                                                 |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Lane Util. Factor                 | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Frt                               | 0.988                                                                             |                                                                                   |                                                                                   |                                                                                   | 0.932                                                                             |                                                                                   |
| Flt Protected                     |                                                                                   |                                                                                   |                                                                                   | 0.996                                                                             | 0.976                                                                             |                                                                                   |
| Satd. Flow (prot)                 | 1840                                                                              | 0                                                                                 | 0                                                                                 | 1855                                                                              | 1694                                                                              | 0                                                                                 |
| Flt Permitted                     |                                                                                   |                                                                                   |                                                                                   | 0.996                                                                             | 0.976                                                                             |                                                                                   |
| Satd. Flow (perm)                 | 1840                                                                              | 0                                                                                 | 0                                                                                 | 1855                                                                              | 1694                                                                              | 0                                                                                 |
| Link Speed (mph)                  | 25                                                                                |                                                                                   |                                                                                   | 25                                                                                | 25                                                                                |                                                                                   |
| Link Distance (ft)                | 597                                                                               |                                                                                   |                                                                                   | 435                                                                               | 1037                                                                              |                                                                                   |
| Travel Time (s)                   | 16.3                                                                              |                                                                                   |                                                                                   | 11.9                                                                              | 28.3                                                                              |                                                                                   |
| Peak Hour Factor                  | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              |
| Adj. Flow (vph)                   | 90                                                                                | 9                                                                                 | 4                                                                                 | 52                                                                                | 4                                                                                 | 4                                                                                 |
| Shared Lane Traffic (%)           |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)             | 99                                                                                | 0                                                                                 | 0                                                                                 | 56                                                                                | 8                                                                                 | 0                                                                                 |
| Sign Control                      | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              | Stop                                                                              |                                                                                   |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Area Type:                        | Other                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Control Type:                     | Unsignalized                                                                      |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization | 15.8%                                                                             |                                                                                   |                                                                                   | ICU Level of Service A                                                            |                                                                                   |                                                                                   |
| Analysis Period (min)             | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |

# HCM Unsignalized Intersection Capacity Analysis

## 3: Nouvelle Dr & Sweet Birch Dr

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|                                   |      |      |       |                      |      |      |
|-----------------------------------|------|------|-------|----------------------|------|------|
|                                   | →    | ↘    | ↙     | ←                    | ↖    | ↗    |
| Movement                          | EBT  | EBR  | WBL   | WBT                  | NBL  | NBR  |
| Lane Configurations               | ↗    |      |       | ↖                    | ↘    |      |
| Traffic Volume (veh/h)            | 81   | 8    | 4     | 47                   | 4    | 4    |
| Future Volume (Veh/h)             | 81   | 8    | 4     | 47                   | 4    | 4    |
| Sign Control                      | Free |      |       | Free                 | Stop |      |
| Grade                             | 0%   |      |       | 0%                   | 0%   |      |
| Peak Hour Factor                  | 0.90 | 0.90 | 0.90  | 0.90                 | 0.90 | 0.90 |
| Hourly flow rate (vph)            | 90   | 9    | 4     | 52                   | 4    | 4    |
| Pedestrians                       |      |      |       |                      |      |      |
| Lane Width (ft)                   |      |      |       |                      |      |      |
| Walking Speed (ft/s)              |      |      |       |                      |      |      |
| Percent Blockage                  |      |      |       |                      |      |      |
| Right turn flare (veh)            |      |      |       |                      |      |      |
| Median type                       | None |      |       | None                 |      |      |
| Median storage veh                |      |      |       |                      |      |      |
| Upstream signal (ft)              |      |      |       |                      |      |      |
| pX, platoon unblocked             |      |      |       |                      |      |      |
| vC, conflicting volume            |      |      | 99    |                      | 154  | 94   |
| vC1, stage 1 conf vol             |      |      |       |                      |      |      |
| vC2, stage 2 conf vol             |      |      |       |                      |      |      |
| vCu, unblocked vol                |      |      | 99    |                      | 154  | 94   |
| tC, single (s)                    |      |      | 4.1   |                      | 6.4  | 6.2  |
| tC, 2 stage (s)                   |      |      |       |                      |      |      |
| tF (s)                            |      |      | 2.2   |                      | 3.5  | 3.3  |
| p0 queue free %                   |      |      | 100   |                      | 100  | 100  |
| cM capacity (veh/h)               |      |      | 1494  |                      | 835  | 962  |
| Direction, Lane #                 | EB 1 | WB 1 | NB 1  |                      |      |      |
| Volume Total                      | 99   | 56   | 8     |                      |      |      |
| Volume Left                       | 0    | 4    | 4     |                      |      |      |
| Volume Right                      | 9    | 0    | 4     |                      |      |      |
| cSH                               | 1700 | 1494 | 894   |                      |      |      |
| Volume to Capacity                | 0.06 | 0.00 | 0.01  |                      |      |      |
| Queue Length 95th (ft)            | 0    | 0    | 1     |                      |      |      |
| Control Delay (s)                 | 0.0  | 0.5  | 9.1   |                      |      |      |
| Lane LOS                          |      | A    | A     |                      |      |      |
| Approach Delay (s)                | 0.0  | 0.5  | 9.1   |                      |      |      |
| Approach LOS                      |      |      | A     |                      |      |      |
| Intersection Summary              |      |      |       |                      |      |      |
| Average Delay                     |      |      | 0.6   |                      |      |      |
| Intersection Capacity Utilization |      |      | 15.8% | ICU Level of Service |      | A    |
| Analysis Period (min)             |      |      | 15    |                      |      |      |

Lanes, Volumes, Timings  
4: Stallings Rd & Monroe Expressway WB Ramp

Stallings Farms TIA

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|                         |  |      |      |                                                                                   |                                                                                   |      |                                                                                    |                                                                                     |      |      |                                                                                     |      |
|-------------------------|------------------------------------------------------------------------------------|------|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------|------|-------------------------------------------------------------------------------------|------|
| Lane Group              | EBL                                                                                | EBT  | EBR  | WBL                                                                               | WBT                                                                               | WBR  | NBL                                                                                | NBT                                                                                 | NBR  | SBL  | SBT                                                                                 | SBR  |
| Lane Configurations     |                                                                                    |      |      |  |  |      |  |  |      |      |  |      |
| Traffic Volume (vph)    | 0                                                                                  | 0    | 0    | 236                                                                               | 126                                                                               | 179  | 665                                                                                | 513                                                                                 | 36   | 0    | 371                                                                                 | 204  |
| Future Volume (vph)     | 0                                                                                  | 0    | 0    | 236                                                                               | 126                                                                               | 179  | 665                                                                                | 513                                                                                 | 36   | 0    | 371                                                                                 | 204  |
| Ideal Flow (vphpl)      | 1900                                                                               | 1900 | 1900 | 1900                                                                              | 1900                                                                              | 1900 | 1900                                                                               | 1900                                                                                | 1900 | 1900 | 1900                                                                                | 1900 |
| Storage Length (ft)     | 0                                                                                  |      | 0    | 325                                                                               |                                                                                   | 50   | 0                                                                                  |                                                                                     | 0    | 200  |                                                                                     | 200  |
| Storage Lanes           | 0                                                                                  |      | 0    | 1                                                                                 |                                                                                   | 0    | 2                                                                                  |                                                                                     | 0    | 0    |                                                                                     | 2    |
| Taper Length (ft)       | 25                                                                                 |      |      | 100                                                                               |                                                                                   |      | 25                                                                                 |                                                                                     |      | 100  |                                                                                     |      |
| Lane Util. Factor       | 1.00                                                                               | 1.00 | 1.00 | 1.00                                                                              | 0.95                                                                              | 0.95 | 0.97                                                                               | 0.95                                                                                | 0.95 | 1.00 | 0.86                                                                                | 0.86 |
| Frt                     |                                                                                    |      |      |                                                                                   | 0.912                                                                             |      |                                                                                    | 0.990                                                                               |      |      | 0.947                                                                               |      |
| Flt Protected           |                                                                                    |      |      | 0.950                                                                             |                                                                                   |      | 0.950                                                                              |                                                                                     |      |      |                                                                                     |      |
| Satd. Flow (prot)       | 0                                                                                  | 0    | 0    | 1719                                                                              | 3228                                                                              | 0    | 3433                                                                               | 3504                                                                                | 0    | 0    | 6030                                                                                | 0    |
| Flt Permitted           |                                                                                    |      |      | 0.950                                                                             |                                                                                   |      | 0.950                                                                              |                                                                                     |      |      |                                                                                     |      |
| Satd. Flow (perm)       | 0                                                                                  | 0    | 0    | 1719                                                                              | 3228                                                                              | 0    | 3433                                                                               | 3504                                                                                | 0    | 0    | 6030                                                                                | 0    |
| Right Turn on Red       |                                                                                    |      | No   |                                                                                   |                                                                                   | No   |                                                                                    |                                                                                     | No   |      |                                                                                     | No   |
| Satd. Flow (RTOR)       |                                                                                    |      |      |                                                                                   |                                                                                   |      |                                                                                    |                                                                                     |      |      |                                                                                     |      |
| Link Speed (mph)        |                                                                                    | 30   |      |                                                                                   | 45                                                                                |      |                                                                                    | 35                                                                                  |      |      | 45                                                                                  |      |
| Link Distance (ft)      |                                                                                    | 1788 |      |                                                                                   | 2381                                                                              |      |                                                                                    | 198                                                                                 |      |      | 998                                                                                 |      |
| Travel Time (s)         |                                                                                    | 40.6 |      |                                                                                   | 36.1                                                                              |      |                                                                                    | 3.9                                                                                 |      |      | 15.1                                                                                |      |
| Peak Hour Factor        | 0.90                                                                               | 0.90 | 0.90 | 0.90                                                                              | 0.90                                                                              | 0.90 | 0.90                                                                               | 0.90                                                                                | 0.90 | 0.90 | 0.90                                                                                | 0.90 |
| Heavy Vehicles (%)      | 2%                                                                                 | 2%   | 2%   | 5%                                                                                | 2%                                                                                | 2%   | 2%                                                                                 | 2%                                                                                  | 2%   | 2%   | 3%                                                                                  | 2%   |
| Adj. Flow (vph)         | 0                                                                                  | 0    | 0    | 262                                                                               | 140                                                                               | 199  | 739                                                                                | 570                                                                                 | 40   | 0    | 412                                                                                 | 227  |
| Shared Lane Traffic (%) |                                                                                    |      |      |                                                                                   |                                                                                   |      |                                                                                    |                                                                                     |      |      |                                                                                     |      |
| Lane Group Flow (vph)   | 0                                                                                  | 0    | 0    | 262                                                                               | 339                                                                               | 0    | 739                                                                                | 610                                                                                 | 0    | 0    | 639                                                                                 | 0    |
| Turn Type               |                                                                                    |      |      | Split                                                                             | NA                                                                                |      | Prot                                                                               | NA                                                                                  |      |      | NA                                                                                  |      |
| Protected Phases        |                                                                                    |      |      | 4                                                                                 | 4                                                                                 |      | 3 5                                                                                | 2 3                                                                                 |      |      | 6                                                                                   |      |
| Permitted Phases        |                                                                                    |      |      |                                                                                   |                                                                                   |      |                                                                                    |                                                                                     |      |      |                                                                                     |      |
| Detector Phase          |                                                                                    |      |      | 4                                                                                 | 4                                                                                 |      | 3 5                                                                                | 2 3                                                                                 |      |      | 6                                                                                   |      |
| Switch Phase            |                                                                                    |      |      |                                                                                   |                                                                                   |      |                                                                                    |                                                                                     |      |      |                                                                                     |      |
| Minimum Initial (s)     |                                                                                    |      |      | 7.0                                                                               | 7.0                                                                               |      |                                                                                    |                                                                                     |      |      | 12.0                                                                                |      |
| Minimum Split (s)       |                                                                                    |      |      | 13.7                                                                              | 13.7                                                                              |      |                                                                                    |                                                                                     |      |      | 28.4                                                                                |      |
| Total Split (s)         |                                                                                    |      |      | 31.0                                                                              | 31.0                                                                              |      |                                                                                    |                                                                                     |      |      | 31.0                                                                                |      |
| Total Split (%)         |                                                                                    |      |      | 25.8%                                                                             | 25.8%                                                                             |      |                                                                                    |                                                                                     |      |      | 25.8%                                                                               |      |
| Maximum Green (s)       |                                                                                    |      |      | 24.3                                                                              | 24.3                                                                              |      |                                                                                    |                                                                                     |      |      | 25.6                                                                                |      |
| Yellow Time (s)         |                                                                                    |      |      | 4.3                                                                               | 4.3                                                                               |      |                                                                                    |                                                                                     |      |      | 4.4                                                                                 |      |
| All-Red Time (s)        |                                                                                    |      |      | 2.4                                                                               | 2.4                                                                               |      |                                                                                    |                                                                                     |      |      | 1.0                                                                                 |      |
| Lost Time Adjust (s)    |                                                                                    |      |      | -1.7                                                                              | -1.7                                                                              |      |                                                                                    |                                                                                     |      |      | -0.4                                                                                |      |
| Total Lost Time (s)     |                                                                                    |      |      | 5.0                                                                               | 5.0                                                                               |      |                                                                                    |                                                                                     |      |      | 5.0                                                                                 |      |
| Lead/Lag                |                                                                                    |      |      | Lag                                                                               | Lag                                                                               |      |                                                                                    |                                                                                     |      |      | Lag                                                                                 |      |
| Lead-Lag Optimize?      |                                                                                    |      |      | Yes                                                                               | Yes                                                                               |      |                                                                                    |                                                                                     |      |      | Yes                                                                                 |      |
| Vehicle Extension (s)   |                                                                                    |      |      | 3.0                                                                               | 3.0                                                                               |      |                                                                                    |                                                                                     |      |      | 3.0                                                                                 |      |
| Recall Mode             |                                                                                    |      |      | None                                                                              | None                                                                              |      |                                                                                    |                                                                                     |      |      | C-Min                                                                               |      |
| Walk Time (s)           |                                                                                    |      |      |                                                                                   |                                                                                   |      |                                                                                    |                                                                                     |      |      | 7.0                                                                                 |      |
| Flash Dont Walk (s)     |                                                                                    |      |      |                                                                                   |                                                                                   |      |                                                                                    |                                                                                     |      |      | 16.0                                                                                |      |
| Pedestrian Calls (#/hr) |                                                                                    |      |      |                                                                                   |                                                                                   |      |                                                                                    |                                                                                     |      |      | 0                                                                                   |      |
| Act Effct Green (s)     |                                                                                    |      |      | 24.0                                                                              | 24.0                                                                              |      | 45.4                                                                               | 66.9                                                                                |      |      | 27.8                                                                                |      |
| Actuated g/C Ratio      |                                                                                    |      |      | 0.20                                                                              | 0.20                                                                              |      | 0.38                                                                               | 0.56                                                                                |      |      | 0.23                                                                                |      |
| v/c Ratio               |                                                                                    |      |      | 0.76                                                                              | 0.53                                                                              |      | 0.57                                                                               | 0.31                                                                                |      |      | 0.46                                                                                |      |
| Control Delay           |                                                                                    |      |      | 60.2                                                                              | 45.7                                                                              |      | 22.3                                                                               | 1.5                                                                                 |      |      | 41.5                                                                                |      |
| Queue Delay             |                                                                                    |      |      | 0.0                                                                               | 0.0                                                                               |      | 23.2                                                                               | 0.4                                                                                 |      |      | 0.0                                                                                 |      |



Lanes, Volumes, Timings  
4: Stallings Rd & Monroe Expressway WB Ramp

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| Lane Group              | Ø1   | Ø2    | Ø3   | Ø5   |
|-------------------------|------|-------|------|------|
| Lane Configurations     |      |       |      |      |
| Traffic Volume (vph)    |      |       |      |      |
| Future Volume (vph)     |      |       |      |      |
| Ideal Flow (vphpl)      |      |       |      |      |
| Storage Length (ft)     |      |       |      |      |
| Storage Lanes           |      |       |      |      |
| Taper Length (ft)       |      |       |      |      |
| Lane Util. Factor       |      |       |      |      |
| Frt                     |      |       |      |      |
| Flt Protected           |      |       |      |      |
| Satd. Flow (prot)       |      |       |      |      |
| Flt Permitted           |      |       |      |      |
| Satd. Flow (perm)       |      |       |      |      |
| Right Turn on Red       |      |       |      |      |
| Satd. Flow (RTOR)       |      |       |      |      |
| Link Speed (mph)        |      |       |      |      |
| Link Distance (ft)      |      |       |      |      |
| Travel Time (s)         |      |       |      |      |
| Peak Hour Factor        |      |       |      |      |
| Heavy Vehicles (%)      |      |       |      |      |
| Adj. Flow (vph)         |      |       |      |      |
| Shared Lane Traffic (%) |      |       |      |      |
| Lane Group Flow (vph)   |      |       |      |      |
| Turn Type               |      |       |      |      |
| Protected Phases        | 1    | 2     | 3    | 5    |
| Permitted Phases        |      |       |      |      |
| Detector Phase          |      |       |      |      |
| Switch Phase            |      |       |      |      |
| Minimum Initial (s)     | 7.0  | 10.0  | 7.0  | 7.0  |
| Minimum Split (s)       | 13.3 | 24.2  | 13.4 | 13.2 |
| Total Split (s)         | 14.0 | 31.0  | 44.0 | 14.0 |
| Total Split (%)         | 12%  | 26%   | 37%  | 12%  |
| Maximum Green (s)       | 7.7  | 25.8  | 37.6 | 7.8  |
| Yellow Time (s)         | 3.0  | 3.9   | 3.8  | 3.0  |
| All-Red Time (s)        | 3.3  | 1.3   | 2.6  | 3.2  |
| Lost Time Adjust (s)    |      |       |      |      |
| Total Lost Time (s)     |      |       |      |      |
| Lead/Lag                | Lag  | Lead  | Lead | Lead |
| Lead-Lag Optimize?      | Yes  | Yes   | Yes  | Yes  |
| Vehicle Extension (s)   | 3.0  | 3.0   | 3.0  | 3.0  |
| Recall Mode             | None | C-Min | None | None |
| Walk Time (s)           |      | 7.0   |      |      |
| Flash Dont Walk (s)     |      | 12.0  |      |      |
| Pedestrian Calls (#/hr) |      | 1     |      |      |
| Act Effct Green (s)     |      |       |      |      |
| Actuated g/C Ratio      |      |       |      |      |
| v/c Ratio               |      |       |      |      |
| Control Delay           |      |       |      |      |
| Queue Delay             |      |       |      |      |

Lanes, Volumes, Timings  
4: Stallings Rd & Monroe Expressway WB Ramp

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|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Total Delay             |                                                                                   |                                                                                   |                                                                                   | 60.2                                                                              | 45.7                                                                              |                                                                                   | 45.6                                                                               | 2.0                                                                                 |                                                                                     |                                                                                     | 41.5                                                                                |                                                                                     |
| LOS                     |                                                                                   |                                                                                   |                                                                                   | E                                                                                 | D                                                                                 |                                                                                   | D                                                                                  | A                                                                                   |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |
| Approach Delay          |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 52.0                                                                              |                                                                                   |                                                                                    | 25.9                                                                                |                                                                                     |                                                                                     | 41.5                                                                                |                                                                                     |
| Approach LOS            |                                                                                   |                                                                                   |                                                                                   |                                                                                   | D                                                                                 |                                                                                   |                                                                                    | C                                                                                   |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |
| Queue Length 50th (ft)  |                                                                                   |                                                                                   |                                                                                   | 189                                                                               | 122                                                                               |                                                                                   | 205                                                                                | 7                                                                                   |                                                                                     |                                                                                     | 127                                                                                 |                                                                                     |
| Queue Length 95th (ft)  |                                                                                   |                                                                                   |                                                                                   | 285                                                                               | 170                                                                               |                                                                                   | 264                                                                                | 30                                                                                  |                                                                                     |                                                                                     | 159                                                                                 |                                                                                     |
| Internal Link Dist (ft) |                                                                                   | 1708                                                                              |                                                                                   |                                                                                   | 2301                                                                              |                                                                                   |                                                                                    | 118                                                                                 |                                                                                     |                                                                                     | 918                                                                                 |                                                                                     |
| Turn Bay Length (ft)    |                                                                                   |                                                                                   |                                                                                   | 325                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Base Capacity (vph)     |                                                                                   |                                                                                   |                                                                                   | 372                                                                               | 699                                                                               |                                                                                   | 1335                                                                               | 1990                                                                                |                                                                                     |                                                                                     | 1414                                                                                |                                                                                     |
| Starvation Cap Reductn  |                                                                                   |                                                                                   |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 611                                                                                | 846                                                                                 |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Spillback Cap Reductn   |                                                                                   |                                                                                   |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                  | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Storage Cap Reductn     |                                                                                   |                                                                                   |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                  | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Reduced v/c Ratio       |                                                                                   |                                                                                   |                                                                                   | 0.70                                                                              | 0.48                                                                              |                                                                                   | 1.02                                                                               | 0.53                                                                                |                                                                                     |                                                                                     | 0.45                                                                                |                                                                                     |

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.76

Intersection Signal Delay: 35.8

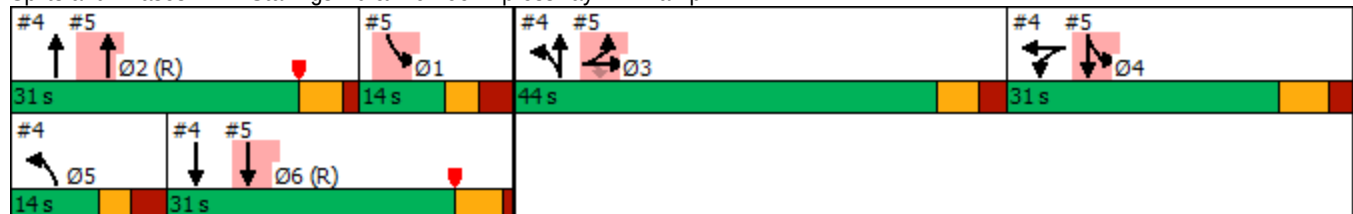
Intersection LOS: D

Intersection Capacity Utilization 54.7%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 4: Stallings Rd & Monroe Expressway WB Ramp



| Lane Group              | Ø1 | Ø2 | Ø3 | Ø5 |
|-------------------------|----|----|----|----|
| Total Delay             |    |    |    |    |
| LOS                     |    |    |    |    |
| Approach Delay          |    |    |    |    |
| Approach LOS            |    |    |    |    |
| Queue Length 50th (ft)  |    |    |    |    |
| Queue Length 95th (ft)  |    |    |    |    |
| Internal Link Dist (ft) |    |    |    |    |
| Turn Bay Length (ft)    |    |    |    |    |
| Base Capacity (vph)     |    |    |    |    |
| Starvation Cap Reductn  |    |    |    |    |
| Spillback Cap Reductn   |    |    |    |    |
| Storage Cap Reductn     |    |    |    |    |
| Reduced v/c Ratio       |    |    |    |    |
| Intersection Summary    |    |    |    |    |

Lanes, Volumes, Timings  
5: Stallings Rd & Monroe Expressway EB Ramp

Stallings Farms TIA

2027 Background PM

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations     |                                                                                   |  |  |                                                                                   |                                                                                   |                                                                                   |                                                                                    |  |                                                                                     |  |  |                                                                                     |
| Traffic Volume (vph)    | 342                                                                               | 164                                                                               | 446                                                                               | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                  | 835                                                                                 | 138                                                                                 | 159                                                                                 | 449                                                                                 | 0                                                                                   |
| Future Volume (vph)     | 342                                                                               | 164                                                                               | 446                                                                               | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                  | 835                                                                                 | 138                                                                                 | 159                                                                                 | 449                                                                                 | 0                                                                                   |
| Ideal Flow (vphpl)      | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                               | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)     | 175                                                                               |                                                                                   | 325                                                                               | 0                                                                                 |                                                                                   | 0                                                                                 | 425                                                                                |                                                                                     | 275                                                                                 | 0                                                                                   |                                                                                     | 0                                                                                   |
| Storage Lanes           | 0                                                                                 |                                                                                   | 1                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 2                                                                                  |                                                                                     | 0                                                                                   | 2                                                                                   |                                                                                     | 0                                                                                   |
| Taper Length (ft)       | 100                                                                               |                                                                                   |                                                                                   | 25                                                                                |                                                                                   |                                                                                   | 225                                                                                |                                                                                     |                                                                                     | 25                                                                                  |                                                                                     |                                                                                     |
| Lane Util. Factor       | 0.95                                                                              | 0.91                                                                              | 0.91                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                               | 0.86                                                                                | 0.86                                                                                | 0.97                                                                                | 0.95                                                                                | 1.00                                                                                |
| Ped Bike Factor         |                                                                                   | 1.00                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 1.00                                                                                |                                                                                     | 1.00                                                                                |                                                                                     |                                                                                     |
| Frt                     |                                                                                   | 0.966                                                                             | 0.850                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 0.979                                                                               |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Flt Protected           |                                                                                   | 0.974                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 0.950                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (prot)       | 0                                                                                 | 3176                                                                              | 1413                                                                              | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                  | 6261                                                                                | 0                                                                                   | 3433                                                                                | 3471                                                                                | 0                                                                                   |
| Flt Permitted           |                                                                                   | 0.974                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 0.950                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (perm)       | 0                                                                                 | 3174                                                                              | 1413                                                                              | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                  | 6261                                                                                | 0                                                                                   | 3431                                                                                | 3471                                                                                | 0                                                                                   |
| Right Turn on Red       |                                                                                   |                                                                                   | No                                                                                |                                                                                   |                                                                                   | No                                                                                |                                                                                    |                                                                                     | No                                                                                  |                                                                                     |                                                                                     | No                                                                                  |
| Satd. Flow (RTOR)       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Link Speed (mph)        |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 30                                                                                |                                                                                   |                                                                                    | 35                                                                                  |                                                                                     |                                                                                     | 35                                                                                  |                                                                                     |
| Link Distance (ft)      |                                                                                   | 1776                                                                              |                                                                                   |                                                                                   | 891                                                                               |                                                                                   |                                                                                    | 1501                                                                                |                                                                                     |                                                                                     | 198                                                                                 |                                                                                     |
| Travel Time (s)         |                                                                                   | 34.6                                                                              |                                                                                   |                                                                                   | 20.3                                                                              |                                                                                   |                                                                                    | 29.2                                                                                |                                                                                     |                                                                                     | 3.9                                                                                 |                                                                                     |
| Confl. Peds. (#/hr)     | 1                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1                                                                                 |                                                                                    |                                                                                     | 1                                                                                   | 1                                                                                   |                                                                                     |                                                                                     |
| Peak Hour Factor        | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                               | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                |
| Heavy Vehicles (%)      | 2%                                                                                | 2%                                                                                | 4%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                 | 2%                                                                                  | 2%                                                                                  | 2%                                                                                  | 4%                                                                                  | 2%                                                                                  |
| Adj. Flow (vph)         | 380                                                                               | 182                                                                               | 496                                                                               | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                  | 928                                                                                 | 153                                                                                 | 177                                                                                 | 499                                                                                 | 0                                                                                   |
| Shared Lane Traffic (%) |                                                                                   |                                                                                   | 33%                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)   | 0                                                                                 | 726                                                                               | 332                                                                               | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                  | 1081                                                                                | 0                                                                                   | 177                                                                                 | 499                                                                                 | 0                                                                                   |
| Turn Type               | Split                                                                             | NA                                                                                | Perm                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                    | NA                                                                                  |                                                                                     | Prot                                                                                | NA                                                                                  |                                                                                     |
| Protected Phases        | 3                                                                                 | 3                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 2                                                                                   |                                                                                     | 1 4                                                                                 | 4 6                                                                                 |                                                                                     |
| Permitted Phases        |                                                                                   |                                                                                   | 3                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Detector Phase          | 3                                                                                 | 3                                                                                 | 3                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 2                                                                                   |                                                                                     | 1 4                                                                                 | 4 6                                                                                 |                                                                                     |
| Switch Phase            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)     | 7.0                                                                               | 7.0                                                                               | 7.0                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 10.0                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Split (s)       | 13.4                                                                              | 13.4                                                                              | 13.4                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 24.2                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Total Split (s)         | 44.0                                                                              | 44.0                                                                              | 44.0                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 31.0                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Total Split (%)         | 36.7%                                                                             | 36.7%                                                                             | 36.7%                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 25.8%                                                                               |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Maximum Green (s)       | 37.6                                                                              | 37.6                                                                              | 37.6                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 25.8                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Yellow Time (s)         | 3.8                                                                               | 3.8                                                                               | 3.8                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 3.9                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| All-Red Time (s)        | 2.6                                                                               | 2.6                                                                               | 2.6                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 1.3                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lost Time Adjust (s)    |                                                                                   | -1.4                                                                              | -1.4                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                    | -0.2                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Total Lost Time (s)     |                                                                                   | 5.0                                                                               | 5.0                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 5.0                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lead/Lag                | Lead                                                                              | Lead                                                                              | Lead                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                    | Lead                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lead-Lag Optimize?      | Yes                                                                               | Yes                                                                               | Yes                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                    | Yes                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Vehicle Extension (s)   | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 3.0                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Recall Mode             | None                                                                              | None                                                                              | None                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                    | C-Min                                                                               |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Walk Time (s)           |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 7.0                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Flash Dont Walk (s)     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 12.0                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Pedestrian Calls (#/hr) |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 1                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Act Effct Green (s)     |                                                                                   | 38.0                                                                              | 38.0                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 29.3                                                                                |                                                                                     | 30.1                                                                                | 48.4                                                                                |                                                                                     |
| Actuated g/C Ratio      |                                                                                   | 0.32                                                                              | 0.32                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 0.24                                                                                |                                                                                     | 0.25                                                                                | 0.40                                                                                |                                                                                     |
| v/c Ratio               |                                                                                   | 0.72                                                                              | 0.74                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 0.71                                                                                |                                                                                     | 0.21                                                                                | 0.36                                                                                |                                                                                     |

Lanes, Volumes, Timings  
5: Stallings Rd & Monroe Expressway EB Ramp

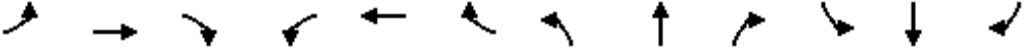
Stallings Farms TIA  
2027 Background PM

| Lane Group              | Ø1   | Ø4   | Ø5   | Ø6    |
|-------------------------|------|------|------|-------|
| Lane Configurations     |      |      |      |       |
| Traffic Volume (vph)    |      |      |      |       |
| Future Volume (vph)     |      |      |      |       |
| Ideal Flow (vphpl)      |      |      |      |       |
| Storage Length (ft)     |      |      |      |       |
| Storage Lanes           |      |      |      |       |
| Taper Length (ft)       |      |      |      |       |
| Lane Util. Factor       |      |      |      |       |
| Ped Bike Factor         |      |      |      |       |
| Frt                     |      |      |      |       |
| Flt Protected           |      |      |      |       |
| Satd. Flow (prot)       |      |      |      |       |
| Flt Permitted           |      |      |      |       |
| Satd. Flow (perm)       |      |      |      |       |
| Right Turn on Red       |      |      |      |       |
| Satd. Flow (RTOR)       |      |      |      |       |
| Link Speed (mph)        |      |      |      |       |
| Link Distance (ft)      |      |      |      |       |
| Travel Time (s)         |      |      |      |       |
| Confl. Peds. (#/hr)     |      |      |      |       |
| Peak Hour Factor        |      |      |      |       |
| Heavy Vehicles (%)      |      |      |      |       |
| Adj. Flow (vph)         |      |      |      |       |
| Shared Lane Traffic (%) |      |      |      |       |
| Lane Group Flow (vph)   |      |      |      |       |
| Turn Type               |      |      |      |       |
| Protected Phases        | 1    | 4    | 5    | 6     |
| Permitted Phases        |      |      |      |       |
| Detector Phase          |      |      |      |       |
| Switch Phase            |      |      |      |       |
| Minimum Initial (s)     | 7.0  | 7.0  | 7.0  | 12.0  |
| Minimum Split (s)       | 13.3 | 13.7 | 13.2 | 28.4  |
| Total Split (s)         | 14.0 | 31.0 | 14.0 | 31.0  |
| Total Split (%)         | 12%  | 26%  | 12%  | 26%   |
| Maximum Green (s)       | 7.7  | 24.3 | 7.8  | 25.6  |
| Yellow Time (s)         | 3.0  | 4.3  | 3.0  | 4.4   |
| All-Red Time (s)        | 3.3  | 2.4  | 3.2  | 1.0   |
| Lost Time Adjust (s)    |      |      |      |       |
| Total Lost Time (s)     |      |      |      |       |
| Lead/Lag                | Lag  | Lag  | Lead | Lag   |
| Lead-Lag Optimize?      | Yes  | Yes  | Yes  | Yes   |
| Vehicle Extension (s)   | 3.0  | 3.0  | 3.0  | 3.0   |
| Recall Mode             | None | None | None | C-Min |
| Walk Time (s)           |      |      |      | 7.0   |
| Flash Dont Walk (s)     |      |      |      | 16.0  |
| Pedestrian Calls (#/hr) |      |      |      | 0     |
| Act Effct Green (s)     |      |      |      |       |
| Actuated g/C Ratio      |      |      |      |       |
| v/c Ratio               |      |      |      |       |

Lanes, Volumes, Timings  
5: Stallings Rd & Monroe Expressway EB Ramp

Stallings Farms TIA

2027 Background PM

|                         |  |      |      |     |     |     |     |      |     |      |      |     |
|-------------------------|------------------------------------------------------------------------------------|------|------|-----|-----|-----|-----|------|-----|------|------|-----|
| Lane Group              | EBL                                                                                | EBT  | EBR  | WBL | WBT | WBR | NBL | NBT  | NBR | SBL  | SBT  | SBR |
| Control Delay           |                                                                                    | 40.9 | 47.7 |     |     |     |     | 45.3 |     | 8.5  | 2.7  |     |
| Queue Delay             |                                                                                    | 0.4  | 0.0  |     |     |     |     | 3.1  |     | 0.4  | 0.2  |     |
| Total Delay             |                                                                                    | 41.2 | 47.7 |     |     |     |     | 48.4 |     | 8.9  | 2.9  |     |
| LOS                     |                                                                                    | D    | D    |     |     |     |     | D    |     | A    | A    |     |
| Approach Delay          |                                                                                    | 43.3 |      |     |     |     |     | 48.4 |     |      | 4.5  |     |
| Approach LOS            |                                                                                    | D    |      |     |     |     |     | D    |     |      | A    |     |
| Queue Length 50th (ft)  |                                                                                    | 268  | 248  |     |     |     |     | 232  |     | 39   | 6    |     |
| Queue Length 95th (ft)  |                                                                                    | 343  | 372  |     |     |     |     | 274  |     | m58  | 23   |     |
| Internal Link Dist (ft) |                                                                                    | 1696 |      |     | 811 |     |     | 1421 |     |      | 118  |     |
| Turn Bay Length (ft)    |                                                                                    |      | 325  |     |     |     |     |      |     |      |      |     |
| Base Capacity (vph)     |                                                                                    | 1040 | 462  |     |     |     |     | 1526 |     | 926  | 1467 |     |
| Starvation Cap Reductn  |                                                                                    | 0    | 0    |     |     |     |     | 0    |     | 403  | 379  |     |
| Spillback Cap Reductn   |                                                                                    | 59   | 0    |     |     |     |     | 331  |     | 0    | 0    |     |
| Storage Cap Reductn     |                                                                                    | 0    | 0    |     |     |     |     | 0    |     | 0    | 0    |     |
| Reduced v/c Ratio       |                                                                                    | 0.74 | 0.72 |     |     |     |     | 0.90 |     | 0.34 | 0.46 |     |

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.76

Intersection Signal Delay: 35.9

Intersection LOS: D

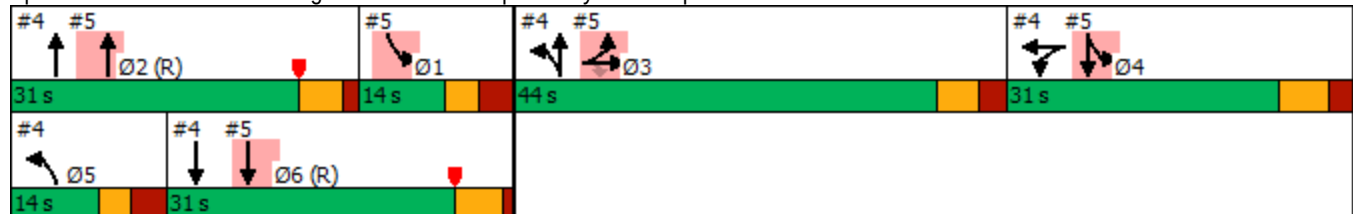
Intersection Capacity Utilization 60.9%

ICU Level of Service B

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Stallings Rd & Monroe Expressway EB Ramp



| Lane Group              | Ø1 | Ø4 | Ø5 | Ø6 |
|-------------------------|----|----|----|----|
| Control Delay           |    |    |    |    |
| Queue Delay             |    |    |    |    |
| Total Delay             |    |    |    |    |
| LOS                     |    |    |    |    |
| Approach Delay          |    |    |    |    |
| Approach LOS            |    |    |    |    |
| Queue Length 50th (ft)  |    |    |    |    |
| Queue Length 95th (ft)  |    |    |    |    |
| Internal Link Dist (ft) |    |    |    |    |
| Turn Bay Length (ft)    |    |    |    |    |
| Base Capacity (vph)     |    |    |    |    |
| Starvation Cap Reductn  |    |    |    |    |
| Spillback Cap Reductn   |    |    |    |    |
| Storage Cap Reductn     |    |    |    |    |
| Reduced v/c Ratio       |    |    |    |    |
| Intersection Summary    |    |    |    |    |



Lanes, Volumes, Timings  
6: Stallings Rd & Matthews-Indian Trail Rd

Stallings Farms TIA  
2027 Background PM

|                         |  |  |  |  |  |  |   |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations     |  |  |                                                                                   |  |  |                                                                                   |  |  |                                                                                     |  |  |                                                                                     |
| Traffic Volume (vph)    | 31                                                                                | 73                                                                                | 132                                                                               | 112                                                                               | 38                                                                                | 179                                                                               | 37                                                                                  | 650                                                                                 | 91                                                                                  | 133                                                                                 | 644                                                                                 | 43                                                                                  |
| Future Volume (vph)     | 31                                                                                | 73                                                                                | 132                                                                               | 112                                                                               | 38                                                                                | 179                                                                               | 37                                                                                  | 650                                                                                 | 91                                                                                  | 133                                                                                 | 644                                                                                 | 43                                                                                  |
| Ideal Flow (vphpl)      | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)     | 140                                                                               |                                                                                   | 0                                                                                 | 140                                                                               |                                                                                   | 0                                                                                 | 120                                                                                 |                                                                                     | 150                                                                                 | 110                                                                                 |                                                                                     | 0                                                                                   |
| Storage Lanes           | 1                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                   |                                                                                     | 0                                                                                   | 1                                                                                   |                                                                                     | 0                                                                                   |
| Taper Length (ft)       | 100                                                                               |                                                                                   |                                                                                   | 75                                                                                |                                                                                   |                                                                                   | 100                                                                                 |                                                                                     |                                                                                     | 100                                                                                 |                                                                                     |                                                                                     |
| Lane Util. Factor       | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Ped Bike Factor         |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     | 1.00                                                                                |                                                                                     | 1.00                                                                                |                                                                                     |                                                                                     |
| Frt                     |                                                                                   | 0.903                                                                             |                                                                                   |                                                                                   | 0.876                                                                             |                                                                                   |                                                                                     | 0.982                                                                               |                                                                                     |                                                                                     | 0.991                                                                               |                                                                                     |
| Flt Protected           | 0.950                                                                             |                                                                                   |                                                                                   | 0.950                                                                             |                                                                                   |                                                                                   | 0.950                                                                               |                                                                                     |                                                                                     | 0.950                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (prot)       | 1770                                                                              | 1682                                                                              | 0                                                                                 | 1770                                                                              | 1632                                                                              | 0                                                                                 | 1770                                                                                | 1807                                                                                | 0                                                                                   | 1770                                                                                | 1812                                                                                | 0                                                                                   |
| Flt Permitted           | 0.574                                                                             |                                                                                   |                                                                                   | 0.599                                                                             |                                                                                   |                                                                                   | 0.225                                                                               |                                                                                     |                                                                                     | 0.183                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (perm)       | 1069                                                                              | 1682                                                                              | 0                                                                                 | 1116                                                                              | 1632                                                                              | 0                                                                                 | 419                                                                                 | 1807                                                                                | 0                                                                                   | 341                                                                                 | 1812                                                                                | 0                                                                                   |
| Right Turn on Red       |                                                                                   |                                                                                   | No                                                                                |                                                                                   |                                                                                   | No                                                                                |                                                                                     |                                                                                     | No                                                                                  |                                                                                     |                                                                                     | No                                                                                  |
| Satd. Flow (RTOR)       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Link Speed (mph)        |                                                                                   | 45                                                                                |                                                                                   |                                                                                   | 35                                                                                |                                                                                   |                                                                                     | 35                                                                                  |                                                                                     |                                                                                     | 35                                                                                  |                                                                                     |
| Link Distance (ft)      |                                                                                   | 2002                                                                              |                                                                                   |                                                                                   | 586                                                                               |                                                                                   |                                                                                     | 1248                                                                                |                                                                                     |                                                                                     | 1501                                                                                |                                                                                     |
| Travel Time (s)         |                                                                                   | 30.3                                                                              |                                                                                   |                                                                                   | 11.4                                                                              |                                                                                   |                                                                                     | 24.3                                                                                |                                                                                     |                                                                                     | 29.2                                                                                |                                                                                     |
| Confl. Peds. (#/hr)     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 1                                                                                   | 1                                                                                   |                                                                                     |                                                                                     |
| Peak Hour Factor        | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                |
| Heavy Vehicles (%)      | 2%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                  | 2%                                                                                  | 10%                                                                                 | 2%                                                                                  | 4%                                                                                  | 3%                                                                                  |
| Adj. Flow (vph)         | 34                                                                                | 81                                                                                | 147                                                                               | 124                                                                               | 42                                                                                | 199                                                                               | 41                                                                                  | 722                                                                                 | 101                                                                                 | 148                                                                                 | 716                                                                                 | 48                                                                                  |
| Shared Lane Traffic (%) |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)   | 34                                                                                | 228                                                                               | 0                                                                                 | 124                                                                               | 241                                                                               | 0                                                                                 | 41                                                                                  | 823                                                                                 | 0                                                                                   | 148                                                                                 | 764                                                                                 | 0                                                                                   |
| Turn Type               | Perm                                                                              | NA                                                                                |                                                                                   | Perm                                                                              | NA                                                                                |                                                                                   | Perm                                                                                | NA                                                                                  |                                                                                     | Perm                                                                                | NA                                                                                  |                                                                                     |
| Protected Phases        |                                                                                   | 4                                                                                 |                                                                                   |                                                                                   | 8                                                                                 |                                                                                   |                                                                                     | 2                                                                                   |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     |
| Permitted Phases        | 4                                                                                 |                                                                                   |                                                                                   | 8                                                                                 |                                                                                   |                                                                                   | 2                                                                                   |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     |                                                                                     |
| Detector Phase          | 4                                                                                 | 4                                                                                 |                                                                                   | 8                                                                                 | 8                                                                                 |                                                                                   | 2                                                                                   | 2                                                                                   |                                                                                     | 6                                                                                   | 6                                                                                   |                                                                                     |
| Switch Phase            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)     | 7.0                                                                               | 7.0                                                                               |                                                                                   | 7.0                                                                               | 7.0                                                                               |                                                                                   | 10.0                                                                                | 10.0                                                                                |                                                                                     | 10.0                                                                                | 10.0                                                                                |                                                                                     |
| Minimum Split (s)       | 12.3                                                                              | 12.3                                                                              |                                                                                   | 12.7                                                                              | 12.7                                                                              |                                                                                   | 34.4                                                                                | 34.4                                                                                |                                                                                     | 15.3                                                                                | 15.3                                                                                |                                                                                     |
| Total Split (s)         | 18.0                                                                              | 18.0                                                                              |                                                                                   | 18.0                                                                              | 18.0                                                                              |                                                                                   | 42.0                                                                                | 42.0                                                                                |                                                                                     | 42.0                                                                                | 42.0                                                                                |                                                                                     |
| Total Split (%)         | 30.0%                                                                             | 30.0%                                                                             |                                                                                   | 30.0%                                                                             | 30.0%                                                                             |                                                                                   | 70.0%                                                                               | 70.0%                                                                               |                                                                                     | 70.0%                                                                               | 70.0%                                                                               |                                                                                     |
| Maximum Green (s)       | 12.7                                                                              | 12.7                                                                              |                                                                                   | 12.3                                                                              | 12.3                                                                              |                                                                                   | 36.6                                                                                | 36.6                                                                                |                                                                                     | 36.7                                                                                | 36.7                                                                                |                                                                                     |
| Yellow Time (s)         | 3.6                                                                               | 3.6                                                                               |                                                                                   | 4.0                                                                               | 4.0                                                                               |                                                                                   | 3.8                                                                                 | 3.8                                                                                 |                                                                                     | 3.6                                                                                 | 3.6                                                                                 |                                                                                     |
| All-Red Time (s)        | 1.7                                                                               | 1.7                                                                               |                                                                                   | 1.7                                                                               | 1.7                                                                               |                                                                                   | 1.6                                                                                 | 1.6                                                                                 |                                                                                     | 1.7                                                                                 | 1.7                                                                                 |                                                                                     |
| Lost Time Adjust (s)    | -0.3                                                                              | -0.3                                                                              |                                                                                   | -0.7                                                                              | -0.7                                                                              |                                                                                   | -0.4                                                                                | -0.4                                                                                |                                                                                     | -0.3                                                                                | -0.3                                                                                |                                                                                     |
| Total Lost Time (s)     | 5.0                                                                               | 5.0                                                                               |                                                                                   | 5.0                                                                               | 5.0                                                                               |                                                                                   | 5.0                                                                                 | 5.0                                                                                 |                                                                                     | 5.0                                                                                 | 5.0                                                                                 |                                                                                     |
| Lead/Lag                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lead-Lag Optimize?      |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Vehicle Extension (s)   | 2.0                                                                               | 2.0                                                                               |                                                                                   | 2.0                                                                               | 2.0                                                                               |                                                                                   | 3.0                                                                                 | 3.0                                                                                 |                                                                                     | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |
| Recall Mode             | None                                                                              | None                                                                              |                                                                                   | None                                                                              | None                                                                              |                                                                                   | Min                                                                                 | Min                                                                                 |                                                                                     | Min                                                                                 | Min                                                                                 |                                                                                     |
| Walk Time (s)           |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 7.0                                                                                 | 7.0                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Flash Dont Walk (s)     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 22.0                                                                                | 22.0                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Pedestrian Calls (#/hr) |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1                                                                                   | 1                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Act Effct Green (s)     | 11.4                                                                              | 11.4                                                                              |                                                                                   | 11.4                                                                              | 11.4                                                                              |                                                                                   | 26.6                                                                                | 26.6                                                                                |                                                                                     | 26.6                                                                                | 26.6                                                                                |                                                                                     |
| Actuated g/C Ratio      | 0.24                                                                              | 0.24                                                                              |                                                                                   | 0.24                                                                              | 0.24                                                                              |                                                                                   | 0.55                                                                                | 0.55                                                                                |                                                                                     | 0.55                                                                                | 0.55                                                                                |                                                                                     |
| v/c Ratio               | 0.14                                                                              | 0.58                                                                              |                                                                                   | 0.48                                                                              | 0.63                                                                              |                                                                                   | 0.18                                                                                | 0.83                                                                                |                                                                                     | 0.80                                                                                | 0.77                                                                                |                                                                                     |

Lanes, Volumes, Timings  
6: Stallings Rd & Matthews-Indian Trail Rd

Stallings Farms TIA  
2027 Background PM

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Control Delay           | 19.5                                                                              | 26.0                                                                              |                                                                                   | 25.9                                                                              | 28.5                                                                              |                                                                                   | 7.4                                                                                | 17.4                                                                                |                                                                                     | 42.7                                                                                | 14.4                                                                                |                                                                                     |
| Queue Delay             | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                                | 0.0                                                                                 |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Delay             | 19.5                                                                              | 26.0                                                                              |                                                                                   | 25.9                                                                              | 28.5                                                                              |                                                                                   | 7.4                                                                                | 17.4                                                                                |                                                                                     | 42.7                                                                                | 14.4                                                                                |                                                                                     |
| LOS                     | B                                                                                 | C                                                                                 |                                                                                   | C                                                                                 | C                                                                                 |                                                                                   | A                                                                                  | B                                                                                   |                                                                                     | D                                                                                   | B                                                                                   |                                                                                     |
| Approach Delay          |                                                                                   | 25.1                                                                              |                                                                                   |                                                                                   | 27.6                                                                              |                                                                                   |                                                                                    | 17.0                                                                                |                                                                                     |                                                                                     | 19.0                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | C                                                                                 |                                                                                   |                                                                                   | C                                                                                 |                                                                                   |                                                                                    | B                                                                                   |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |
| Queue Length 50th (ft)  | 8                                                                                 | 58                                                                                |                                                                                   | 31                                                                                | 63                                                                                |                                                                                   | 5                                                                                  | 175                                                                                 |                                                                                     | 31                                                                                  | 154                                                                                 |                                                                                     |
| Queue Length 95th (ft)  | 30                                                                                | #152                                                                              |                                                                                   | 87                                                                                | #170                                                                              |                                                                                   | 18                                                                                 | 310                                                                                 |                                                                                     | #131                                                                                | 266                                                                                 |                                                                                     |
| Internal Link Dist (ft) |                                                                                   | 1922                                                                              |                                                                                   |                                                                                   | 506                                                                               |                                                                                   |                                                                                    | 1168                                                                                |                                                                                     |                                                                                     | 1421                                                                                |                                                                                     |
| Turn Bay Length (ft)    | 140                                                                               |                                                                                   |                                                                                   | 140                                                                               |                                                                                   |                                                                                   | 120                                                                                |                                                                                     |                                                                                     | 110                                                                                 |                                                                                     |                                                                                     |
| Base Capacity (vph)     | 302                                                                               | 475                                                                               |                                                                                   | 315                                                                               | 462                                                                               |                                                                                   | 324                                                                                | 1397                                                                                |                                                                                     | 263                                                                                 | 1401                                                                                |                                                                                     |
| Starvation Cap Reductn  | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                  | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     |
| Spillback Cap Reductn   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                  | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     |
| Storage Cap Reductn     | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                  | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     |
| Reduced v/c Ratio       | 0.11                                                                              | 0.48                                                                              |                                                                                   | 0.39                                                                              | 0.52                                                                              |                                                                                   | 0.13                                                                               | 0.59                                                                                |                                                                                     | 0.56                                                                                | 0.55                                                                                |                                                                                     |

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 48.5

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.83

Intersection Signal Delay: 20.3

Intersection LOS: C

Intersection Capacity Utilization 83.6%

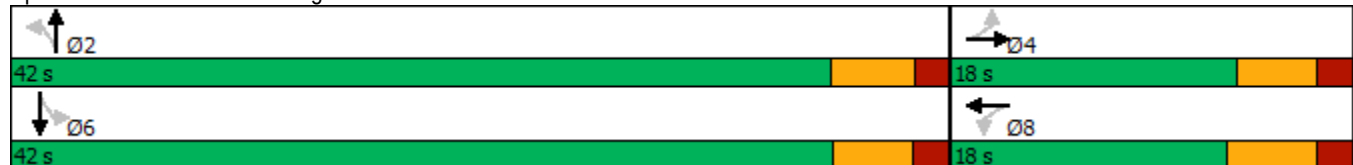
ICU Level of Service E

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 6: Stallings Rd & Matthews-Indian Trail Rd



Lanes, Volumes, Timings  
7: Mt. Harmony Church Rd & Stevens Mill Rd

Stallings Farms TIA  
2027 Background PM

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations     |                                                                                   |  |                                                                                   |  |  |                                                                                   |                                                                                    |  |                                                                                     |  |  |                                                                                     |
| Traffic Volume (vph)    | 18                                                                                | 10                                                                                | 4                                                                                 | 9                                                                                 | 7                                                                                 | 72                                                                                | 4                                                                                  | 122                                                                                 | 76                                                                                  | 160                                                                                 | 48                                                                                  | 4                                                                                   |
| Future Volume (vph)     | 18                                                                                | 10                                                                                | 4                                                                                 | 9                                                                                 | 7                                                                                 | 72                                                                                | 4                                                                                  | 122                                                                                 | 76                                                                                  | 160                                                                                 | 48                                                                                  | 4                                                                                   |
| Ideal Flow (vphpl)      | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                               | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)     | 0                                                                                 |                                                                                   | 0                                                                                 | 125                                                                               |                                                                                   | 0                                                                                 | 0                                                                                  |                                                                                     | 0                                                                                   | 150                                                                                 |                                                                                     | 0                                                                                   |
| Storage Lanes           | 0                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                  |                                                                                     | 0                                                                                   | 1                                                                                   |                                                                                     | 0                                                                                   |
| Taper Length (ft)       | 25                                                                                |                                                                                   |                                                                                   | 125                                                                               |                                                                                   |                                                                                   | 25                                                                                 |                                                                                     |                                                                                     | 100                                                                                 |                                                                                     |                                                                                     |
| Lane Util. Factor       | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                               | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Frt                     |                                                                                   | 0.985                                                                             |                                                                                   |                                                                                   | 0.864                                                                             |                                                                                   |                                                                                    | 0.949                                                                               |                                                                                     |                                                                                     | 0.989                                                                               |                                                                                     |
| Flt Protected           |                                                                                   | 0.972                                                                             |                                                                                   | 0.950                                                                             |                                                                                   |                                                                                   |                                                                                    | 0.999                                                                               |                                                                                     | 0.950                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (prot)       | 0                                                                                 | 1597                                                                              | 0                                                                                 | 1770                                                                              | 1595                                                                              | 0                                                                                 | 0                                                                                  | 1725                                                                                | 0                                                                                   | 1770                                                                                | 1826                                                                                | 0                                                                                   |
| Flt Permitted           |                                                                                   | 0.972                                                                             |                                                                                   | 0.950                                                                             |                                                                                   |                                                                                   |                                                                                    | 0.999                                                                               |                                                                                     | 0.950                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (perm)       | 0                                                                                 | 1597                                                                              | 0                                                                                 | 1770                                                                              | 1595                                                                              | 0                                                                                 | 0                                                                                  | 1725                                                                                | 0                                                                                   | 1770                                                                                | 1826                                                                                | 0                                                                                   |
| Link Speed (mph)        |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 35                                                                                |                                                                                   |                                                                                    | 35                                                                                  |                                                                                     |                                                                                     | 35                                                                                  |                                                                                     |
| Link Distance (ft)      |                                                                                   | 831                                                                               |                                                                                   |                                                                                   | 703                                                                               |                                                                                   |                                                                                    | 907                                                                                 |                                                                                     |                                                                                     | 461                                                                                 |                                                                                     |
| Travel Time (s)         |                                                                                   | 16.2                                                                              |                                                                                   |                                                                                   | 13.7                                                                              |                                                                                   |                                                                                    | 17.7                                                                                |                                                                                     |                                                                                     | 9.0                                                                                 |                                                                                     |
| Peak Hour Factor        | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                               | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                |
| Heavy Vehicles (%)      | 2%                                                                                | 40%                                                                               | 2%                                                                                | 2%                                                                                | 2%                                                                                | 3%                                                                                | 33%                                                                                | 2%                                                                                  | 7%                                                                                  | 2%                                                                                  | 3%                                                                                  | 2%                                                                                  |
| Adj. Flow (vph)         | 20                                                                                | 11                                                                                | 4                                                                                 | 10                                                                                | 8                                                                                 | 80                                                                                | 4                                                                                  | 136                                                                                 | 84                                                                                  | 178                                                                                 | 53                                                                                  | 4                                                                                   |
| Shared Lane Traffic (%) |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)   | 0                                                                                 | 35                                                                                | 0                                                                                 | 10                                                                                | 88                                                                                | 0                                                                                 | 0                                                                                  | 224                                                                                 | 0                                                                                   | 178                                                                                 | 57                                                                                  | 0                                                                                   |
| Sign Control            |                                                                                   | Stop                                                                              |                                                                                   |                                                                                   | Stop                                                                              |                                                                                   |                                                                                    | Free                                                                                |                                                                                     |                                                                                     | Free                                                                                |                                                                                     |

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 38.6% ICU Level of Service A

Analysis Period (min) 15

# HCM Unsignalized Intersection Capacity Analysis

## 7: Mt. Harmony Church Rd & Stevens Mill Rd

Stallings Farms TIA  
2027 Background PM

|                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                                   |  |  |  |  |  |  |  |  |  |  |  |  |
| Movement                          | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |                                                                                   |  |                                                                                   |  |  |                                                                                   |                                                                                    |  |                                                                                     |  |  |                                                                                     |
| Traffic Volume (veh/h)            | 18                                                                                | 10                                                                                | 4                                                                                 | 9                                                                                 | 7                                                                                 | 72                                                                                | 4                                                                                  | 122                                                                                 | 76                                                                                  | 160                                                                                 | 48                                                                                  | 4                                                                                   |
| Future Volume (Veh/h)             | 18                                                                                | 10                                                                                | 4                                                                                 | 9                                                                                 | 7                                                                                 | 72                                                                                | 4                                                                                  | 122                                                                                 | 76                                                                                  | 160                                                                                 | 48                                                                                  | 4                                                                                   |
| Sign Control                      |                                                                                   | Stop                                                                              |                                                                                   |                                                                                   | Stop                                                                              |                                                                                   |                                                                                    | Free                                                                                |                                                                                     |                                                                                     | Free                                                                                |                                                                                     |
| Grade                             |                                                                                   | 0%                                                                                |                                                                                   |                                                                                   | 0%                                                                                |                                                                                   |                                                                                    | 0%                                                                                  |                                                                                     |                                                                                     | 0%                                                                                  |                                                                                     |
| Peak Hour Factor                  | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                               | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                |
| Hourly flow rate (vph)            | 20                                                                                | 11                                                                                | 4                                                                                 | 10                                                                                | 8                                                                                 | 80                                                                                | 4                                                                                  | 136                                                                                 | 84                                                                                  | 178                                                                                 | 53                                                                                  | 4                                                                                   |
| Pedestrians                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Width (ft)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Walking Speed (ft/s)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Percent Blockage                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Right turn flare (veh)            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Median type                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    | None                                                                                |                                                                                     |                                                                                     | None                                                                                |                                                                                     |
| Median storage (veh)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Upstream signal (ft)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| pX, platoon unblocked             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| vC, conflicting volume            | 681                                                                               | 639                                                                               | 55                                                                                | 604                                                                               | 599                                                                               | 178                                                                               | 57                                                                                 |                                                                                     |                                                                                     | 220                                                                                 |                                                                                     |                                                                                     |
| vC1, stage 1 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| vC2, stage 2 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| vCu, unblocked vol                | 681                                                                               | 639                                                                               | 55                                                                                | 604                                                                               | 599                                                                               | 178                                                                               | 57                                                                                 |                                                                                     |                                                                                     | 220                                                                                 |                                                                                     |                                                                                     |
| tC, single (s)                    | 7.1                                                                               | 6.9                                                                               | 6.2                                                                               | 7.1                                                                               | 6.5                                                                               | 6.2                                                                               | 4.4                                                                                |                                                                                     |                                                                                     | 4.1                                                                                 |                                                                                     |                                                                                     |
| tC, 2 stage (s)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| tF (s)                            | 3.5                                                                               | 4.4                                                                               | 3.3                                                                               | 3.5                                                                               | 4.0                                                                               | 3.3                                                                               | 2.5                                                                                |                                                                                     |                                                                                     | 2.2                                                                                 |                                                                                     |                                                                                     |
| p0 queue free %                   | 93                                                                                | 96                                                                                | 100                                                                               | 97                                                                                | 98                                                                                | 91                                                                                | 100                                                                                |                                                                                     |                                                                                     | 87                                                                                  |                                                                                     |                                                                                     |
| cM capacity (veh/h)               | 292                                                                               | 302                                                                               | 1012                                                                              | 356                                                                               | 359                                                                               | 862                                                                               | 1371                                                                               |                                                                                     |                                                                                     | 1349                                                                                |                                                                                     |                                                                                     |
| Direction, Lane #                 | EB 1                                                                              | WB 1                                                                              | WB 2                                                                              | NB 1                                                                              | SB 1                                                                              | SB 2                                                                              |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Total                      | 35                                                                                | 10                                                                                | 88                                                                                | 224                                                                               | 178                                                                               | 57                                                                                |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Left                       | 20                                                                                | 10                                                                                | 0                                                                                 | 4                                                                                 | 178                                                                               | 0                                                                                 |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Right                      | 4                                                                                 | 0                                                                                 | 80                                                                                | 84                                                                                | 0                                                                                 | 4                                                                                 |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| cSH                               | 321                                                                               | 356                                                                               | 765                                                                               | 1371                                                                              | 1349                                                                              | 1700                                                                              |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume to Capacity                | 0.11                                                                              | 0.03                                                                              | 0.12                                                                              | 0.00                                                                              | 0.13                                                                              | 0.03                                                                              |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Queue Length 95th (ft)            | 9                                                                                 | 2                                                                                 | 10                                                                                | 0                                                                                 | 11                                                                                | 0                                                                                 |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Control Delay (s)                 | 17.6                                                                              | 15.4                                                                              | 10.3                                                                              | 0.2                                                                               | 8.1                                                                               | 0.0                                                                               |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane LOS                          | C                                                                                 | C                                                                                 | B                                                                                 | A                                                                                 | A                                                                                 |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Approach Delay (s)                | 17.6                                                                              | 10.8                                                                              |                                                                                   | 0.2                                                                               | 6.1                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Approach LOS                      | C                                                                                 | B                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Average Delay                     |                                                                                   |                                                                                   | 5.3                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 38.6%                                                                             |                                                                                   | ICU Level of Service                                                              |                                                                                   |                                                                                    |                                                                                     | A                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

Lanes, Volumes, Timings  
8: Oakspring Rd & Stevens Mill Rd

Stallings Farms TIA  
2027 Background PM

|                                   |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group                        | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | NBL                                                                               | NBR                                                                               |
| Lane Configurations               |  |                                                                                   |                                                                                   |  |  |  |
| Traffic Volume (vph)              | 567                                                                               | 410                                                                               | 96                                                                                | 295                                                                               | 177                                                                               | 115                                                                               |
| Future Volume (vph)               | 567                                                                               | 410                                                                               | 96                                                                                | 295                                                                               | 177                                                                               | 115                                                                               |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Storage Length (ft)               |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 100                                                                               |
| Storage Lanes                     |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 1                                                                                 | 1                                                                                 |
| Taper Length (ft)                 |                                                                                   |                                                                                   | 25                                                                                |                                                                                   | 25                                                                                |                                                                                   |
| Lane Util. Factor                 | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Frt                               | 0.943                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.850                                                                             |
| Flt Protected                     |                                                                                   |                                                                                   |                                                                                   | 0.988                                                                             | 0.950                                                                             |                                                                                   |
| Satd. Flow (prot)                 | 1728                                                                              | 0                                                                                 | 0                                                                                 | 1797                                                                              | 1770                                                                              | 1583                                                                              |
| Flt Permitted                     |                                                                                   |                                                                                   |                                                                                   | 0.988                                                                             | 0.950                                                                             |                                                                                   |
| Satd. Flow (perm)                 | 1728                                                                              | 0                                                                                 | 0                                                                                 | 1797                                                                              | 1770                                                                              | 1583                                                                              |
| Link Speed (mph)                  | 45                                                                                |                                                                                   |                                                                                   | 45                                                                                | 35                                                                                |                                                                                   |
| Link Distance (ft)                | 940                                                                               |                                                                                   |                                                                                   | 594                                                                               | 925                                                                               |                                                                                   |
| Travel Time (s)                   | 14.2                                                                              |                                                                                   |                                                                                   | 9.0                                                                               | 18.0                                                                              |                                                                                   |
| Peak Hour Factor                  | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              |
| Heavy Vehicles (%)                | 2%                                                                                | 6%                                                                                | 6%                                                                                | 4%                                                                                | 2%                                                                                | 2%                                                                                |
| Adj. Flow (vph)                   | 630                                                                               | 456                                                                               | 107                                                                               | 328                                                                               | 197                                                                               | 128                                                                               |
| Shared Lane Traffic (%)           |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)             | 1086                                                                              | 0                                                                                 | 0                                                                                 | 435                                                                               | 197                                                                               | 128                                                                               |
| Sign Control                      | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              | Stop                                                                              |                                                                                   |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Area Type:                        | Other                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Control Type:                     | Unsignalized                                                                      |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization | 95.5%                                                                             |                                                                                   |                                                                                   | ICU Level of Service F                                                            |                                                                                   |                                                                                   |
| Analysis Period (min)             | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |

# HCM Unsignalized Intersection Capacity Analysis

## 8: Oakspring Rd & Stevens Mill Rd

Stallings Farms TIA  
2027 Background PM

|                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|                                   |  |  |  |  |  |  |
| Movement                          | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | NBL                                                                               | NBR                                                                               |
| Lane Configurations               |  |                                                                                   |                                                                                   |  |  |  |
| Traffic Volume (veh/h)            | 567                                                                               | 410                                                                               | 96                                                                                | 295                                                                               | 177                                                                               | 115                                                                               |
| Future Volume (Veh/h)             | 567                                                                               | 410                                                                               | 96                                                                                | 295                                                                               | 177                                                                               | 115                                                                               |
| Sign Control                      | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              | Stop                                                                              |                                                                                   |
| Grade                             | 0%                                                                                |                                                                                   |                                                                                   | 0%                                                                                | 0%                                                                                |                                                                                   |
| Peak Hour Factor                  | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              |
| Hourly flow rate (vph)            | 630                                                                               | 456                                                                               | 107                                                                               | 328                                                                               | 197                                                                               | 128                                                                               |
| Pedestrians                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Width (ft)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Walking Speed (ft/s)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Percent Blockage                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Right turn flare (veh)            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 4                                                                                 |
| Median type                       | None                                                                              |                                                                                   | None                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Median storage veh                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Upstream signal (ft)              | 940                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| pX, platoon unblocked             |                                                                                   |                                                                                   | 0.80                                                                              |                                                                                   | 0.80                                                                              | 0.80                                                                              |
| vC, conflicting volume            |                                                                                   |                                                                                   | 1086                                                                              |                                                                                   | 1400                                                                              | 858                                                                               |
| vC1, stage 1 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC2, stage 2 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vCu, unblocked vol                |                                                                                   |                                                                                   | 983                                                                               |                                                                                   | 1375                                                                              | 698                                                                               |
| tC, single (s)                    |                                                                                   |                                                                                   | 4.2                                                                               |                                                                                   | 6.4                                                                               | 6.2                                                                               |
| tC, 2 stage (s)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| tF (s)                            |                                                                                   |                                                                                   | 2.3                                                                               |                                                                                   | 3.5                                                                               | 3.3                                                                               |
| p0 queue free %                   |                                                                                   |                                                                                   | 81                                                                                |                                                                                   | 0                                                                                 | 64                                                                                |
| cM capacity (veh/h)               |                                                                                   |                                                                                   | 550                                                                               |                                                                                   | 103                                                                               | 353                                                                               |
| Direction, Lane #                 | EB 1                                                                              | WB 1                                                                              | NB 1                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Volume Total                      | 1086                                                                              | 435                                                                               | 325                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Volume Left                       | 0                                                                                 | 107                                                                               | 197                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Volume Right                      | 456                                                                               | 0                                                                                 | 128                                                                               |                                                                                   |                                                                                   |                                                                                   |
| cSH                               | 1700                                                                              | 550                                                                               | 147                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Volume to Capacity                | 0.64                                                                              | 0.19                                                                              | 2.21                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Queue Length 95th (ft)            | 0                                                                                 | 18                                                                                | 670                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Control Delay (s)                 | 0.0                                                                               | 5.6                                                                               | 616.6                                                                             |                                                                                   |                                                                                   |                                                                                   |
| Lane LOS                          |                                                                                   | A                                                                                 | F                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| Approach Delay (s)                | 0.0                                                                               | 5.6                                                                               | 616.6                                                                             |                                                                                   |                                                                                   |                                                                                   |
| Approach LOS                      |                                                                                   |                                                                                   | F                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Average Delay                     |                                                                                   |                                                                                   | 109.9                                                                             |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 95.5%                                                                             | ICU Level of Service                                                              |                                                                                   | F                                                                                 |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |

## 2027 Build-out Conditions





Lanes, Volumes, Timings  
1: Stallings Rd & Stevens Mill Rd

Stallings Farms TIA  
2027 Build AM

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|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations     |                                                                                   |  |  |                                                                                   |  |  |  |  |                                                                                     |  |  |                                                                                     |
| Traffic Volume (vph)    | 39                                                                                | 78                                                                                | 124                                                                               | 257                                                                               | 227                                                                               | 370                                                                               | 75                                                                                  | 168                                                                                 | 128                                                                                 | 340                                                                                 | 231                                                                                 | 44                                                                                  |
| Future Volume (vph)     | 39                                                                                | 78                                                                                | 124                                                                               | 257                                                                               | 227                                                                               | 370                                                                               | 75                                                                                  | 168                                                                                 | 128                                                                                 | 340                                                                                 | 231                                                                                 | 44                                                                                  |
| Ideal Flow (vphpl)      | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)     | 0                                                                                 |                                                                                   | 100                                                                               | 0                                                                                 |                                                                                   | 300                                                                               | 150                                                                                 |                                                                                     | 250                                                                                 | 225                                                                                 |                                                                                     | 0                                                                                   |
| Storage Lanes           | 0                                                                                 |                                                                                   | 1                                                                                 | 0                                                                                 |                                                                                   | 1                                                                                 | 1                                                                                   |                                                                                     | 0                                                                                   | 1                                                                                   |                                                                                     | 0                                                                                   |
| Taper Length (ft)       | 25                                                                                |                                                                                   |                                                                                   | 25                                                                                |                                                                                   |                                                                                   | 100                                                                                 |                                                                                     |                                                                                     | 100                                                                                 |                                                                                     |                                                                                     |
| Lane Util. Factor       | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Ped Bike Factor         |                                                                                   |                                                                                   | 0.97                                                                              |                                                                                   | 1.00                                                                              |                                                                                   | 1.00                                                                                |                                                                                     |                                                                                     |                                                                                     | 1.00                                                                                |                                                                                     |
| Frt                     |                                                                                   |                                                                                   | 0.850                                                                             |                                                                                   |                                                                                   | 0.850                                                                             |                                                                                     | 0.931                                                                               |                                                                                     |                                                                                     | 0.980                                                                               |                                                                                     |
| Flt Protected           |                                                                                   | 0.983                                                                             |                                                                                   |                                                                                   | 0.974                                                                             |                                                                                   | 0.950                                                                               |                                                                                     |                                                                                     | 0.950                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (prot)       | 0                                                                                 | 1788                                                                              | 1538                                                                              | 0                                                                                 | 1814                                                                              | 1553                                                                              | 1770                                                                                | 1664                                                                                | 0                                                                                   | 1752                                                                                | 1801                                                                                | 0                                                                                   |
| Flt Permitted           |                                                                                   | 0.427                                                                             |                                                                                   |                                                                                   | 0.759                                                                             |                                                                                   | 0.455                                                                               |                                                                                     |                                                                                     | 0.479                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (perm)       | 0                                                                                 | 777                                                                               | 1498                                                                              | 0                                                                                 | 1410                                                                              | 1553                                                                              | 845                                                                                 | 1664                                                                                | 0                                                                                   | 884                                                                                 | 1801                                                                                | 0                                                                                   |
| Right Turn on Red       |                                                                                   |                                                                                   | No                                                                                |                                                                                   |                                                                                   | No                                                                                |                                                                                     |                                                                                     | No                                                                                  |                                                                                     |                                                                                     | No                                                                                  |
| Satd. Flow (RTOR)       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Link Speed (mph)        |                                                                                   | 45                                                                                |                                                                                   |                                                                                   | 45                                                                                |                                                                                   |                                                                                     | 45                                                                                  |                                                                                     |                                                                                     | 45                                                                                  |                                                                                     |
| Link Distance (ft)      |                                                                                   | 1672                                                                              |                                                                                   |                                                                                   | 940                                                                               |                                                                                   |                                                                                     | 447                                                                                 |                                                                                     |                                                                                     | 1502                                                                                |                                                                                     |
| Travel Time (s)         |                                                                                   | 25.3                                                                              |                                                                                   |                                                                                   | 14.2                                                                              |                                                                                   |                                                                                     | 6.8                                                                                 |                                                                                     |                                                                                     | 22.8                                                                                |                                                                                     |
| Confl. Peds. (#/hr)     |                                                                                   |                                                                                   | 3                                                                                 | 3                                                                                 |                                                                                   |                                                                                   | 3                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 3                                                                                   |
| Peak Hour Factor        | 0.77                                                                              | 0.82                                                                              | 0.74                                                                              | 0.82                                                                              | 0.80                                                                              | 0.72                                                                              | 0.82                                                                                | 0.86                                                                                | 0.77                                                                                | 0.69                                                                                | 0.69                                                                                | 0.84                                                                                |
| Heavy Vehicles (%)      | 9%                                                                                | 2%                                                                                | 5%                                                                                | 2%                                                                                | 2%                                                                                | 4%                                                                                | 2%                                                                                  | 4%                                                                                  | 9%                                                                                  | 3%                                                                                  | 3%                                                                                  | 3%                                                                                  |
| Adj. Flow (vph)         | 51                                                                                | 95                                                                                | 168                                                                               | 313                                                                               | 284                                                                               | 514                                                                               | 91                                                                                  | 195                                                                                 | 166                                                                                 | 493                                                                                 | 335                                                                                 | 52                                                                                  |
| Shared Lane Traffic (%) |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)   | 0                                                                                 | 146                                                                               | 168                                                                               | 0                                                                                 | 597                                                                               | 514                                                                               | 91                                                                                  | 361                                                                                 | 0                                                                                   | 493                                                                                 | 387                                                                                 | 0                                                                                   |
| Turn Type               | Perm                                                                              | NA                                                                                | Perm                                                                              | Perm                                                                              | NA                                                                                | Perm                                                                              | Perm                                                                                | NA                                                                                  |                                                                                     | Perm                                                                                | NA                                                                                  |                                                                                     |
| Protected Phases        |                                                                                   | 4                                                                                 |                                                                                   |                                                                                   | 8                                                                                 |                                                                                   |                                                                                     | 2                                                                                   |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     |
| Permitted Phases        | 4                                                                                 |                                                                                   | 4                                                                                 | 8                                                                                 |                                                                                   | 8                                                                                 | 2                                                                                   |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     |                                                                                     |
| Detector Phase          | 4                                                                                 | 4                                                                                 | 4                                                                                 | 8                                                                                 | 8                                                                                 | 8                                                                                 | 2                                                                                   | 2                                                                                   |                                                                                     | 6                                                                                   | 6                                                                                   |                                                                                     |
| Switch Phase            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)     | 7.0                                                                               | 7.0                                                                               | 7.0                                                                               | 7.0                                                                               | 7.0                                                                               | 7.0                                                                               | 12.0                                                                                | 12.0                                                                                |                                                                                     | 12.0                                                                                | 12.0                                                                                |                                                                                     |
| Minimum Split (s)       | 25.0                                                                              | 25.0                                                                              | 25.0                                                                              | 25.0                                                                              | 25.0                                                                              | 25.0                                                                              | 25.0                                                                                | 25.0                                                                                |                                                                                     | 25.0                                                                                | 25.0                                                                                |                                                                                     |
| Total Split (s)         | 33.0                                                                              | 33.0                                                                              | 33.0                                                                              | 33.0                                                                              | 33.0                                                                              | 33.0                                                                              | 42.0                                                                                | 42.0                                                                                |                                                                                     | 42.0                                                                                | 42.0                                                                                |                                                                                     |
| Total Split (%)         | 44.0%                                                                             | 44.0%                                                                             | 44.0%                                                                             | 44.0%                                                                             | 44.0%                                                                             | 44.0%                                                                             | 56.0%                                                                               | 56.0%                                                                               |                                                                                     | 56.0%                                                                               | 56.0%                                                                               |                                                                                     |
| Maximum Green (s)       | 26.0                                                                              | 26.0                                                                              | 26.0                                                                              | 26.0                                                                              | 26.0                                                                              | 26.0                                                                              | 35.0                                                                                | 35.0                                                                                |                                                                                     | 35.0                                                                                | 35.0                                                                                |                                                                                     |
| Yellow Time (s)         | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                                 | 5.0                                                                                 |                                                                                     | 5.0                                                                                 | 5.0                                                                                 |                                                                                     |
| All-Red Time (s)        | 2.0                                                                               | 2.0                                                                               | 2.0                                                                               | 2.0                                                                               | 2.0                                                                               | 2.0                                                                               | 2.0                                                                                 | 2.0                                                                                 |                                                                                     | 2.0                                                                                 | 2.0                                                                                 |                                                                                     |
| Lost Time Adjust (s)    |                                                                                   | -2.0                                                                              | -2.0                                                                              |                                                                                   | -2.0                                                                              | -2.0                                                                              | -2.0                                                                                | -2.0                                                                                |                                                                                     | -2.0                                                                                | -2.0                                                                                |                                                                                     |
| Total Lost Time (s)     |                                                                                   | 5.0                                                                               | 5.0                                                                               |                                                                                   | 5.0                                                                               | 5.0                                                                               | 5.0                                                                                 | 5.0                                                                                 |                                                                                     | 5.0                                                                                 | 5.0                                                                                 |                                                                                     |
| Lead/Lag                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lead-Lag Optimize?      |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Vehicle Extension (s)   | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                                 | 3.0                                                                                 |                                                                                     | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |
| Recall Mode             | None                                                                              | None                                                                              | None                                                                              | None                                                                              | None                                                                              | None                                                                              | Min                                                                                 | Min                                                                                 |                                                                                     | Min                                                                                 | Min                                                                                 |                                                                                     |
| Walk Time (s)           | 7.0                                                                               | 7.0                                                                               | 7.0                                                                               | 7.0                                                                               | 7.0                                                                               | 7.0                                                                               | 7.0                                                                                 | 7.0                                                                                 |                                                                                     | 7.0                                                                                 | 7.0                                                                                 |                                                                                     |
| Flash Dont Walk (s)     | 11.0                                                                              | 11.0                                                                              | 11.0                                                                              | 11.0                                                                              | 11.0                                                                              | 11.0                                                                              | 11.0                                                                                | 11.0                                                                                |                                                                                     | 11.0                                                                                | 11.0                                                                                |                                                                                     |
| Pedestrian Calls (#/hr) | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     |
| Act Effct Green (s)     |                                                                                   | 28.0                                                                              | 28.0                                                                              |                                                                                   | 28.0                                                                              | 28.0                                                                              | 37.0                                                                                | 37.0                                                                                |                                                                                     | 37.0                                                                                | 37.0                                                                                |                                                                                     |
| Actuated g/C Ratio      |                                                                                   | 0.37                                                                              | 0.37                                                                              |                                                                                   | 0.37                                                                              | 0.37                                                                              | 0.49                                                                                | 0.49                                                                                |                                                                                     | 0.49                                                                                | 0.49                                                                                |                                                                                     |
| v/c Ratio               |                                                                                   | 0.50                                                                              | 0.30                                                                              |                                                                                   | 1.13                                                                              | 0.89                                                                              | 0.22                                                                                | 0.44                                                                                |                                                                                     | 1.13                                                                                | 0.44                                                                                |                                                                                     |

Lanes, Volumes, Timings  
1: Stallings Rd & Stevens Mill Rd

Stallings Farms TIA  
2027 Build AM

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Control Delay           |                                                                                   | 25.6                                                                              | 18.5                                                                              |                                                                                   | 107.9                                                                             | 42.3                                                                              | 12.6                                                                               | 14.4                                                                                |                                                                                     | 106.6                                                                               | 14.2                                                                                |                                                                                     |
| Queue Delay             |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                | 0.0                                                                                 |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Delay             |                                                                                   | 25.6                                                                              | 18.5                                                                              |                                                                                   | 107.9                                                                             | 42.3                                                                              | 12.6                                                                               | 14.4                                                                                |                                                                                     | 106.6                                                                               | 14.2                                                                                |                                                                                     |
| LOS                     |                                                                                   | C                                                                                 | B                                                                                 |                                                                                   | F                                                                                 | D                                                                                 | B                                                                                  | B                                                                                   |                                                                                     | F                                                                                   | B                                                                                   |                                                                                     |
| Approach Delay          |                                                                                   | 21.8                                                                              |                                                                                   |                                                                                   | 77.5                                                                              |                                                                                   |                                                                                    | 14.1                                                                                |                                                                                     |                                                                                     | 66.0                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | C                                                                                 |                                                                                   |                                                                                   | E                                                                                 |                                                                                   |                                                                                    | B                                                                                   |                                                                                     |                                                                                     | E                                                                                   |                                                                                     |
| Queue Length 50th (ft)  |                                                                                   | 51                                                                                | 54                                                                                |                                                                                   | ~329                                                                              | 219                                                                               | 23                                                                                 | 103                                                                                 |                                                                                     | ~271                                                                                | 110                                                                                 |                                                                                     |
| Queue Length 95th (ft)  |                                                                                   | 95                                                                                | 79                                                                                |                                                                                   | #431                                                                              | 247                                                                               | 45                                                                                 | 158                                                                                 |                                                                                     | #293                                                                                | 123                                                                                 |                                                                                     |
| Internal Link Dist (ft) |                                                                                   | 1592                                                                              |                                                                                   |                                                                                   | 860                                                                               |                                                                                   |                                                                                    | 367                                                                                 |                                                                                     |                                                                                     | 1422                                                                                |                                                                                     |
| Turn Bay Length (ft)    |                                                                                   |                                                                                   | 100                                                                               |                                                                                   |                                                                                   | 300                                                                               | 150                                                                                |                                                                                     |                                                                                     | 225                                                                                 |                                                                                     |                                                                                     |
| Base Capacity (vph)     |                                                                                   | 290                                                                               | 559                                                                               |                                                                                   | 526                                                                               | 579                                                                               | 416                                                                                | 820                                                                                 |                                                                                     | 436                                                                                 | 888                                                                                 |                                                                                     |
| Starvation Cap Reductn  |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 | 0                                                                                  | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     |
| Spillback Cap Reductn   |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 | 0                                                                                  | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     |
| Storage Cap Reductn     |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 | 0                                                                                  | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     |
| Reduced v/c Ratio       |                                                                                   | 0.50                                                                              | 0.30                                                                              |                                                                                   | 1.13                                                                              | 0.89                                                                              | 0.22                                                                               | 0.44                                                                                |                                                                                     | 1.13                                                                                | 0.44                                                                                |                                                                                     |

Intersection Summary

Area Type: Other

Cycle Length: 75

Actuated Cycle Length: 75

Natural Cycle: 100

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.13

Intersection Signal Delay: 57.1

Intersection LOS: E

Intersection Capacity Utilization 85.4%

ICU Level of Service E

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: Stallings Rd & Stevens Mill Rd

|                                                                                        |                                                                                        |
|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
|  Ø2 |  Ø4 |
| 42 s                                                                                   | 33 s                                                                                   |
|  Ø6 |  Ø8 |
| 42 s                                                                                   | 33 s                                                                                   |

Lanes, Volumes, Timings  
2: Stallings Rd & Sweet Birch Dr

Stallings Farms TIA  
2027 Build AM

|                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|                                   |  |  |  |  |  |  |
| Lane Group                        | WBL                                                                               | WBR                                                                               | NBT                                                                               | NBR                                                                               | SBL                                                                               | SBT                                                                               |
| Lane Configurations               |  |                                                                                   |  |                                                                                   |                                                                                   |  |
| Traffic Volume (vph)              | 54                                                                                | 33                                                                                | 336                                                                               | 11                                                                                | 19                                                                                | 660                                                                               |
| Future Volume (vph)               | 54                                                                                | 33                                                                                | 336                                                                               | 11                                                                                | 19                                                                                | 660                                                                               |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Lane Util. Factor                 | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Frt                               | 0.949                                                                             |                                                                                   | 0.996                                                                             |                                                                                   |                                                                                   |                                                                                   |
| Flt Protected                     | 0.970                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.998                                                                             |
| Satd. Flow (prot)                 | 1715                                                                              | 0                                                                                 | 1788                                                                              | 0                                                                                 | 0                                                                                 | 1842                                                                              |
| Flt Permitted                     | 0.970                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.998                                                                             |
| Satd. Flow (perm)                 | 1715                                                                              | 0                                                                                 | 1788                                                                              | 0                                                                                 | 0                                                                                 | 1842                                                                              |
| Link Speed (mph)                  | 25                                                                                |                                                                                   | 45                                                                                |                                                                                   |                                                                                   | 45                                                                                |
| Link Distance (ft)                | 597                                                                               |                                                                                   | 2030                                                                              |                                                                                   |                                                                                   | 1224                                                                              |
| Travel Time (s)                   | 16.3                                                                              |                                                                                   | 30.8                                                                              |                                                                                   |                                                                                   | 18.5                                                                              |
| Peak Hour Factor                  | 0.90                                                                              | 0.90                                                                              | 0.82                                                                              | 0.80                                                                              | 0.56                                                                              | 0.63                                                                              |
| Heavy Vehicles (%)                | 2%                                                                                | 2%                                                                                | 6%                                                                                | 2%                                                                                | 2%                                                                                | 3%                                                                                |
| Adj. Flow (vph)                   | 60                                                                                | 37                                                                                | 410                                                                               | 14                                                                                | 34                                                                                | 1048                                                                              |
| Shared Lane Traffic (%)           |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)             | 97                                                                                | 0                                                                                 | 424                                                                               | 0                                                                                 | 0                                                                                 | 1082                                                                              |
| Sign Control                      | Stop                                                                              |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Area Type:                        | Other                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Control Type:                     | Unsignalized                                                                      |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization | 61.7%                                                                             |                                                                                   |                                                                                   | ICU Level of Service B                                                            |                                                                                   |                                                                                   |
| Analysis Period (min)             | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |

# HCM Unsignalized Intersection Capacity Analysis

## 2: Stallings Rd & Sweet Birch Dr

Stallings Farms TIA  
2027 Build AM

|                                   |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Movement                          | WBL                                                                               | WBR                                                                               | NBT                                                                               | NBR                                                                               | SBL                                                                               | SBT                                                                               |
| Lane Configurations               |  |                                                                                   |  |                                                                                   |                                                                                   |  |
| Traffic Volume (veh/h)            | 54                                                                                | 33                                                                                | 336                                                                               | 11                                                                                | 19                                                                                | 660                                                                               |
| Future Volume (Veh/h)             | 54                                                                                | 33                                                                                | 336                                                                               | 11                                                                                | 19                                                                                | 660                                                                               |
| Sign Control                      | Stop                                                                              |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              |
| Grade                             | 0%                                                                                |                                                                                   | 0%                                                                                |                                                                                   |                                                                                   | 0%                                                                                |
| Peak Hour Factor                  | 0.90                                                                              | 0.90                                                                              | 0.82                                                                              | 0.80                                                                              | 0.56                                                                              | 0.63                                                                              |
| Hourly flow rate (vph)            | 60                                                                                | 37                                                                                | 410                                                                               | 14                                                                                | 34                                                                                | 1048                                                                              |
| Pedestrians                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Width (ft)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Walking Speed (ft/s)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Percent Blockage                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Right turn flare (veh)            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Median type                       |                                                                                   |                                                                                   | None                                                                              |                                                                                   |                                                                                   | None                                                                              |
| Median storage (veh)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Upstream signal (ft)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| pX, platoon unblocked             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC, conflicting volume            | 1533                                                                              | 417                                                                               |                                                                                   |                                                                                   | 424                                                                               |                                                                                   |
| vC1, stage 1 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC2, stage 2 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vCu, unblocked vol                | 1533                                                                              | 417                                                                               |                                                                                   |                                                                                   | 424                                                                               |                                                                                   |
| tC, single (s)                    | 6.4                                                                               | 6.2                                                                               |                                                                                   |                                                                                   | 4.1                                                                               |                                                                                   |
| tC, 2 stage (s)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| tF (s)                            | 3.5                                                                               | 3.3                                                                               |                                                                                   |                                                                                   | 2.2                                                                               |                                                                                   |
| p0 queue free %                   | 52                                                                                | 94                                                                                |                                                                                   |                                                                                   | 97                                                                                |                                                                                   |
| cM capacity (veh/h)               | 124                                                                               | 636                                                                               |                                                                                   |                                                                                   | 1135                                                                              |                                                                                   |
| Direction, Lane #                 | WB 1                                                                              | NB 1                                                                              | SB 1                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Volume Total                      | 97                                                                                | 424                                                                               | 1082                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Volume Left                       | 60                                                                                | 0                                                                                 | 34                                                                                |                                                                                   |                                                                                   |                                                                                   |
| Volume Right                      | 37                                                                                | 14                                                                                | 0                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| cSH                               | 180                                                                               | 1700                                                                              | 1135                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Volume to Capacity                | 0.54                                                                              | 0.25                                                                              | 0.03                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Queue Length 95th (ft)            | 69                                                                                | 0                                                                                 | 2                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| Control Delay (s)                 | 46.4                                                                              | 0.0                                                                               | 0.9                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Lane LOS                          | E                                                                                 |                                                                                   | A                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| Approach Delay (s)                | 46.4                                                                              | 0.0                                                                               | 0.9                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Approach LOS                      | E                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Average Delay                     |                                                                                   | 3.4                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization |                                                                                   | 61.7%                                                                             |                                                                                   | ICU Level of Service                                                              |                                                                                   | B                                                                                 |
| Analysis Period (min)             |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |

Lanes, Volumes, Timings  
3: Nouvelle Dr & Sweet Birch Dr

Stallings Farms TIA  
2027 Build AM

|                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|                                   |  |  |  |  |  |  |
| Lane Group                        | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | NBL                                                                               | NBR                                                                               |
| Lane Configurations               |  |                                                                                   |                                                                                   |  |  |                                                                                   |
| Traffic Volume (vph)              | 26                                                                                | 4                                                                                 | 4                                                                                 | 78                                                                                | 9                                                                                 | 4                                                                                 |
| Future Volume (vph)               | 26                                                                                | 4                                                                                 | 4                                                                                 | 78                                                                                | 9                                                                                 | 4                                                                                 |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Lane Util. Factor                 | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Frt                               | 0.984                                                                             |                                                                                   |                                                                                   |                                                                                   | 0.961                                                                             |                                                                                   |
| Flt Protected                     |                                                                                   |                                                                                   |                                                                                   | 0.998                                                                             | 0.966                                                                             |                                                                                   |
| Satd. Flow (prot)                 | 1833                                                                              | 0                                                                                 | 0                                                                                 | 1859                                                                              | 1729                                                                              | 0                                                                                 |
| Flt Permitted                     |                                                                                   |                                                                                   |                                                                                   | 0.998                                                                             | 0.966                                                                             |                                                                                   |
| Satd. Flow (perm)                 | 1833                                                                              | 0                                                                                 | 0                                                                                 | 1859                                                                              | 1729                                                                              | 0                                                                                 |
| Link Speed (mph)                  | 25                                                                                |                                                                                   |                                                                                   | 25                                                                                | 25                                                                                |                                                                                   |
| Link Distance (ft)                | 597                                                                               |                                                                                   |                                                                                   | 333                                                                               | 1037                                                                              |                                                                                   |
| Travel Time (s)                   | 16.3                                                                              |                                                                                   |                                                                                   | 9.1                                                                               | 28.3                                                                              |                                                                                   |
| Peak Hour Factor                  | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              |
| Adj. Flow (vph)                   | 29                                                                                | 4                                                                                 | 4                                                                                 | 87                                                                                | 10                                                                                | 4                                                                                 |
| Shared Lane Traffic (%)           |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)             | 33                                                                                | 0                                                                                 | 0                                                                                 | 91                                                                                | 14                                                                                | 0                                                                                 |
| Sign Control                      | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              | Stop                                                                              |                                                                                   |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Area Type:                        | Other                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Control Type:                     | Unsignalized                                                                      |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization | 17.4%                                                                             |                                                                                   |                                                                                   | ICU Level of Service A                                                            |                                                                                   |                                                                                   |
| Analysis Period (min)             | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |

# HCM Unsignalized Intersection Capacity Analysis

## 3: Nouvelle Dr & Sweet Birch Dr

Stallings Farms TIA  
2027 Build AM

|                                   |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Movement                          | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | NBL                                                                               | NBR                                                                               |
| Lane Configurations               |  |                                                                                   |                                                                                   |  |  |                                                                                   |
| Traffic Volume (veh/h)            | 26                                                                                | 4                                                                                 | 4                                                                                 | 78                                                                                | 9                                                                                 | 4                                                                                 |
| Future Volume (Veh/h)             | 26                                                                                | 4                                                                                 | 4                                                                                 | 78                                                                                | 9                                                                                 | 4                                                                                 |
| Sign Control                      | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              | Stop                                                                              |                                                                                   |
| Grade                             | 0%                                                                                |                                                                                   |                                                                                   | 0%                                                                                | 0%                                                                                |                                                                                   |
| Peak Hour Factor                  | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              |
| Hourly flow rate (vph)            | 29                                                                                | 4                                                                                 | 4                                                                                 | 87                                                                                | 10                                                                                | 4                                                                                 |
| Pedestrians                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Width (ft)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Walking Speed (ft/s)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Percent Blockage                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Right turn flare (veh)            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Median type                       | None                                                                              |                                                                                   |                                                                                   | None                                                                              |                                                                                   |                                                                                   |
| Median storage (veh)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Upstream signal (ft)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| pX, platoon unblocked             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC, conflicting volume            |                                                                                   |                                                                                   | 33                                                                                |                                                                                   | 126                                                                               | 31                                                                                |
| vC1, stage 1 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC2, stage 2 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vCu, unblocked vol                |                                                                                   |                                                                                   | 33                                                                                |                                                                                   | 126                                                                               | 31                                                                                |
| tC, single (s)                    |                                                                                   |                                                                                   | 4.1                                                                               |                                                                                   | 6.4                                                                               | 6.2                                                                               |
| tC, 2 stage (s)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| tF (s)                            |                                                                                   |                                                                                   | 2.2                                                                               |                                                                                   | 3.5                                                                               | 3.3                                                                               |
| p0 queue free %                   |                                                                                   |                                                                                   | 100                                                                               |                                                                                   | 99                                                                                | 100                                                                               |
| cM capacity (veh/h)               |                                                                                   |                                                                                   | 1579                                                                              |                                                                                   | 867                                                                               | 1043                                                                              |
| Direction, Lane #                 | EB 1                                                                              | WB 1                                                                              | NB 1                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Volume Total                      | 33                                                                                | 91                                                                                | 14                                                                                |                                                                                   |                                                                                   |                                                                                   |
| Volume Left                       | 0                                                                                 | 4                                                                                 | 10                                                                                |                                                                                   |                                                                                   |                                                                                   |
| Volume Right                      | 4                                                                                 | 0                                                                                 | 4                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| cSH                               | 1700                                                                              | 1579                                                                              | 911                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Volume to Capacity                | 0.02                                                                              | 0.00                                                                              | 0.02                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Queue Length 95th (ft)            | 0                                                                                 | 0                                                                                 | 1                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| Control Delay (s)                 | 0.0                                                                               | 0.3                                                                               | 9.0                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Lane LOS                          |                                                                                   | A                                                                                 | A                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| Approach Delay (s)                | 0.0                                                                               | 0.3                                                                               | 9.0                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Approach LOS                      |                                                                                   |                                                                                   | A                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| <b>Intersection Summary</b>       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Average Delay                     |                                                                                   | 1.1                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization |                                                                                   | 17.4%                                                                             |                                                                                   | ICU Level of Service                                                              |                                                                                   | A                                                                                 |
| Analysis Period (min)             |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |



## 4: Stallings Rd &amp; Monroe Expressway WB Ramp

2027 Build AM

|                         |  |      |      |                                                                                   |                                                                                   |      |                                                                                    |                                                                                     |      |      |                                                                                     |      |
|-------------------------|------------------------------------------------------------------------------------|------|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------|------|-------------------------------------------------------------------------------------|------|
| Lane Group              | EBL                                                                                | EBT  | EBR  | WBL                                                                               | WBT                                                                               | WBR  | NBL                                                                                | NBT                                                                                 | NBR  | SBL  | SBT                                                                                 | SBR  |
| Lane Configurations     |                                                                                    |      |      |  |  |      |  |  |      |      |  |      |
| Traffic Volume (vph)    | 0                                                                                  | 0    | 0    | 279                                                                               | 120                                                                               | 171  | 600                                                                                | 326                                                                                 | 0    | 0    | 475                                                                                 | 249  |
| Future Volume (vph)     | 0                                                                                  | 0    | 0    | 279                                                                               | 120                                                                               | 171  | 600                                                                                | 326                                                                                 | 0    | 0    | 475                                                                                 | 249  |
| Ideal Flow (vphpl)      | 1900                                                                               | 1900 | 1900 | 1900                                                                              | 1900                                                                              | 1900 | 1900                                                                               | 1900                                                                                | 1900 | 1900 | 1900                                                                                | 1900 |
| Storage Length (ft)     | 0                                                                                  |      | 0    | 325                                                                               |                                                                                   | 50   | 0                                                                                  |                                                                                     | 0    | 200  |                                                                                     | 200  |
| Storage Lanes           | 0                                                                                  |      | 0    | 1                                                                                 |                                                                                   | 0    | 2                                                                                  |                                                                                     | 0    | 0    |                                                                                     | 2    |
| Taper Length (ft)       | 25                                                                                 |      |      | 100                                                                               |                                                                                   |      | 25                                                                                 |                                                                                     |      | 100  |                                                                                     |      |
| Lane Util. Factor       | 1.00                                                                               | 1.00 | 1.00 | 1.00                                                                              | 0.95                                                                              | 0.95 | 0.97                                                                               | 0.95                                                                                | 1.00 | 1.00 | 0.86                                                                                | 0.86 |
| Frt                     |                                                                                    |      |      |                                                                                   | 0.914                                                                             |      |                                                                                    |                                                                                     |      |      | 0.951                                                                               |      |
| Flt Protected           |                                                                                    |      |      | 0.950                                                                             |                                                                                   |      | 0.950                                                                              |                                                                                     |      |      |                                                                                     |      |
| Satd. Flow (prot)       | 0                                                                                  | 0    | 0    | 1719                                                                              | 3186                                                                              | 0    | 3273                                                                               | 3343                                                                                | 0    | 0    | 6036                                                                                | 0    |
| Flt Permitted           |                                                                                    |      |      | 0.950                                                                             |                                                                                   |      | 0.950                                                                              |                                                                                     |      |      |                                                                                     |      |
| Satd. Flow (perm)       | 0                                                                                  | 0    | 0    | 1719                                                                              | 3186                                                                              | 0    | 3273                                                                               | 3343                                                                                | 0    | 0    | 6036                                                                                | 0    |
| Right Turn on Red       |                                                                                    |      | No   |                                                                                   |                                                                                   | No   |                                                                                    |                                                                                     | No   |      |                                                                                     | No   |
| Satd. Flow (RTOR)       |                                                                                    |      |      |                                                                                   |                                                                                   |      |                                                                                    |                                                                                     |      |      |                                                                                     |      |
| Link Speed (mph)        |                                                                                    | 30   |      |                                                                                   | 45                                                                                |      |                                                                                    | 35                                                                                  |      |      | 45                                                                                  |      |
| Link Distance (ft)      |                                                                                    | 1788 |      |                                                                                   | 2381                                                                              |      |                                                                                    | 198                                                                                 |      |      | 998                                                                                 |      |
| Travel Time (s)         |                                                                                    | 40.6 |      |                                                                                   | 36.1                                                                              |      |                                                                                    | 3.9                                                                                 |      |      | 15.1                                                                                |      |
| Peak Hour Factor        | 0.90                                                                               | 0.90 | 0.90 | 0.87                                                                              | 0.81                                                                              | 0.85 | 0.94                                                                               | 0.84                                                                                | 0.90 | 0.90 | 0.87                                                                                | 0.95 |
| Heavy Vehicles (%)      | 2%                                                                                 | 2%   | 2%   | 5%                                                                                | 3%                                                                                | 4%   | 7%                                                                                 | 8%                                                                                  | 2%   | 2%   | 2%                                                                                  | 5%   |
| Adj. Flow (vph)         | 0                                                                                  | 0    | 0    | 321                                                                               | 148                                                                               | 201  | 638                                                                                | 388                                                                                 | 0    | 0    | 546                                                                                 | 262  |
| Shared Lane Traffic (%) |                                                                                    |      |      |                                                                                   |                                                                                   |      |                                                                                    |                                                                                     |      |      |                                                                                     |      |
| Lane Group Flow (vph)   | 0                                                                                  | 0    | 0    | 321                                                                               | 349                                                                               | 0    | 638                                                                                | 388                                                                                 | 0    | 0    | 808                                                                                 | 0    |
| Turn Type               |                                                                                    |      |      | Split                                                                             | NA                                                                                |      | Prot                                                                               | NA                                                                                  |      |      | NA                                                                                  |      |
| Protected Phases        |                                                                                    |      |      | 4                                                                                 | 4                                                                                 |      | 3 5                                                                                | 2 3                                                                                 |      |      | 6                                                                                   |      |
| Permitted Phases        |                                                                                    |      |      |                                                                                   |                                                                                   |      |                                                                                    |                                                                                     |      |      |                                                                                     |      |
| Detector Phase          |                                                                                    |      |      | 4                                                                                 | 4                                                                                 |      | 3 5                                                                                | 2 3                                                                                 |      |      | 6                                                                                   |      |
| Switch Phase            |                                                                                    |      |      |                                                                                   |                                                                                   |      |                                                                                    |                                                                                     |      |      |                                                                                     |      |
| Minimum Initial (s)     |                                                                                    |      |      | 7.0                                                                               | 7.0                                                                               |      |                                                                                    |                                                                                     |      |      | 12.0                                                                                |      |
| Minimum Split (s)       |                                                                                    |      |      | 13.7                                                                              | 13.7                                                                              |      |                                                                                    |                                                                                     |      |      | 28.4                                                                                |      |
| Total Split (s)         |                                                                                    |      |      | 36.0                                                                              | 36.0                                                                              |      |                                                                                    |                                                                                     |      |      | 29.0                                                                                |      |
| Total Split (%)         |                                                                                    |      |      | 30.0%                                                                             | 30.0%                                                                             |      |                                                                                    |                                                                                     |      |      | 24.2%                                                                               |      |
| Maximum Green (s)       |                                                                                    |      |      | 29.3                                                                              | 29.3                                                                              |      |                                                                                    |                                                                                     |      |      | 23.6                                                                                |      |
| Yellow Time (s)         |                                                                                    |      |      | 4.3                                                                               | 4.3                                                                               |      |                                                                                    |                                                                                     |      |      | 4.4                                                                                 |      |
| All-Red Time (s)        |                                                                                    |      |      | 2.4                                                                               | 2.4                                                                               |      |                                                                                    |                                                                                     |      |      | 1.0                                                                                 |      |
| Lost Time Adjust (s)    |                                                                                    |      |      | -1.7                                                                              | -1.7                                                                              |      |                                                                                    |                                                                                     |      |      | -0.4                                                                                |      |
| Total Lost Time (s)     |                                                                                    |      |      | 5.0                                                                               | 5.0                                                                               |      |                                                                                    |                                                                                     |      |      | 5.0                                                                                 |      |
| Lead/Lag                |                                                                                    |      |      | Lag                                                                               | Lag                                                                               |      |                                                                                    |                                                                                     |      |      | Lag                                                                                 |      |
| Lead-Lag Optimize?      |                                                                                    |      |      | Yes                                                                               | Yes                                                                               |      |                                                                                    |                                                                                     |      |      | Yes                                                                                 |      |
| Vehicle Extension (s)   |                                                                                    |      |      | 3.0                                                                               | 3.0                                                                               |      |                                                                                    |                                                                                     |      |      | 3.0                                                                                 |      |
| Recall Mode             |                                                                                    |      |      | None                                                                              | None                                                                              |      |                                                                                    |                                                                                     |      |      | C-Min                                                                               |      |
| Walk Time (s)           |                                                                                    |      |      |                                                                                   |                                                                                   |      |                                                                                    |                                                                                     |      |      | 7.0                                                                                 |      |
| Flash Dont Walk (s)     |                                                                                    |      |      |                                                                                   |                                                                                   |      |                                                                                    |                                                                                     |      |      | 16.0                                                                                |      |
| Pedestrian Calls (#/hr) |                                                                                    |      |      |                                                                                   |                                                                                   |      |                                                                                    |                                                                                     |      |      | 0                                                                                   |      |
| Act Effct Green (s)     |                                                                                    |      |      | 28.9                                                                              | 28.9                                                                              |      | 42.4                                                                               | 61.0                                                                                |      |      | 26.0                                                                                |      |
| Actuated g/C Ratio      |                                                                                    |      |      | 0.24                                                                              | 0.24                                                                              |      | 0.35                                                                               | 0.51                                                                                |      |      | 0.22                                                                                |      |
| v/c Ratio               |                                                                                    |      |      | 0.78                                                                              | 0.46                                                                              |      | 0.55                                                                               | 0.23                                                                                |      |      | 0.62                                                                                |      |
| Control Delay           |                                                                                    |      |      | 56.0                                                                              | 40.5                                                                              |      | 20.7                                                                               | 1.2                                                                                 |      |      | 45.6                                                                                |      |
| Queue Delay             |                                                                                    |      |      | 0.0                                                                               | 0.0                                                                               |      | 12.3                                                                               | 0.3                                                                                 |      |      | 0.0                                                                                 |      |

Lanes, Volumes, Timings  
4: Stallings Rd & Monroe Expressway WB Ramp

Stallings Farms TIA  
2027 Build AM

| Lane Group              | Ø1   | Ø2    | Ø3   | Ø5   |
|-------------------------|------|-------|------|------|
| Lane Configurations     |      |       |      |      |
| Traffic Volume (vph)    |      |       |      |      |
| Future Volume (vph)     |      |       |      |      |
| Ideal Flow (vphpl)      |      |       |      |      |
| Storage Length (ft)     |      |       |      |      |
| Storage Lanes           |      |       |      |      |
| Taper Length (ft)       |      |       |      |      |
| Lane Util. Factor       |      |       |      |      |
| Frt                     |      |       |      |      |
| Flt Protected           |      |       |      |      |
| Satd. Flow (prot)       |      |       |      |      |
| Flt Permitted           |      |       |      |      |
| Satd. Flow (perm)       |      |       |      |      |
| Right Turn on Red       |      |       |      |      |
| Satd. Flow (RTOR)       |      |       |      |      |
| Link Speed (mph)        |      |       |      |      |
| Link Distance (ft)      |      |       |      |      |
| Travel Time (s)         |      |       |      |      |
| Peak Hour Factor        |      |       |      |      |
| Heavy Vehicles (%)      |      |       |      |      |
| Adj. Flow (vph)         |      |       |      |      |
| Shared Lane Traffic (%) |      |       |      |      |
| Lane Group Flow (vph)   |      |       |      |      |
| Turn Type               |      |       |      |      |
| Protected Phases        | 1    | 2     | 3    | 5    |
| Permitted Phases        |      |       |      |      |
| Detector Phase          |      |       |      |      |
| Switch Phase            |      |       |      |      |
| Minimum Initial (s)     | 7.0  | 10.0  | 7.0  | 7.0  |
| Minimum Split (s)       | 13.3 | 24.2  | 13.4 | 13.2 |
| Total Split (s)         | 14.0 | 29.0  | 41.0 | 14.0 |
| Total Split (%)         | 12%  | 24%   | 34%  | 12%  |
| Maximum Green (s)       | 7.7  | 23.8  | 34.6 | 7.8  |
| Yellow Time (s)         | 3.0  | 3.9   | 3.8  | 3.0  |
| All-Red Time (s)        | 3.3  | 1.3   | 2.6  | 3.2  |
| Lost Time Adjust (s)    |      |       |      |      |
| Total Lost Time (s)     |      |       |      |      |
| Lead/Lag                | Lag  | Lead  | Lead | Lead |
| Lead-Lag Optimize?      | Yes  | Yes   | Yes  | Yes  |
| Vehicle Extension (s)   | 3.0  | 3.0   | 3.0  | 3.0  |
| Recall Mode             | None | C-Min | None | None |
| Walk Time (s)           |      | 7.0   |      |      |
| Flash Dont Walk (s)     |      | 12.0  |      |      |
| Pedestrian Calls (#/hr) |      | 0     |      |      |
| Act Effct Green (s)     |      |       |      |      |
| Actuated g/C Ratio      |      |       |      |      |
| v/c Ratio               |      |       |      |      |
| Control Delay           |      |       |      |      |
| Queue Delay             |      |       |      |      |

## 4: Stallings Rd &amp; Monroe Expressway WB Ramp

2027 Build AM

|                         |  |      |     |      |      |     |      |      |     |     |      |     |
|-------------------------|------------------------------------------------------------------------------------|------|-----|------|------|-----|------|------|-----|-----|------|-----|
| Lane Group              | EBL                                                                                | EBT  | EBR | WBL  | WBT  | WBR | NBL  | NBT  | NBR | SBL | SBT  | SBR |
| Total Delay             |                                                                                    |      |     | 56.0 | 40.5 |     | 33.0 | 1.5  |     |     | 45.6 |     |
| LOS                     |                                                                                    |      |     | E    | D    |     | C    | A    |     |     | D    |     |
| Approach Delay          |                                                                                    |      |     |      | 47.9 |     |      | 21.1 |     |     | 45.6 |     |
| Approach LOS            |                                                                                    |      |     |      | D    |     |      | C    |     |     | D    |     |
| Queue Length 50th (ft)  |                                                                                    |      |     | 228  | 118  |     | 171  | 4    |     |     | 169  |     |
| Queue Length 95th (ft)  |                                                                                    |      |     | 319  | 146  |     | 229  | 10   |     |     | 198  |     |
| Internal Link Dist (ft) |                                                                                    | 1708 |     |      | 2301 |     |      | 118  |     |     | 918  |     |
| Turn Bay Length (ft)    |                                                                                    |      |     | 325  |      |     |      |      |     |     |      |     |
| Base Capacity (vph)     |                                                                                    |      |     | 444  | 823  |     | 1196 | 1746 |     |     | 1330 |     |
| Starvation Cap Reductn  |                                                                                    |      |     | 0    | 0    |     | 536  | 807  |     |     | 0    |     |
| Spillback Cap Reductn   |                                                                                    |      |     | 0    | 0    |     | 0    | 0    |     |     | 2    |     |
| Storage Cap Reductn     |                                                                                    |      |     | 0    | 0    |     | 0    | 0    |     |     | 0    |     |
| Reduced v/c Ratio       |                                                                                    |      |     | 0.72 | 0.42 |     | 0.97 | 0.41 |     |     | 0.61 |     |

## Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.78

Intersection Signal Delay: 36.2

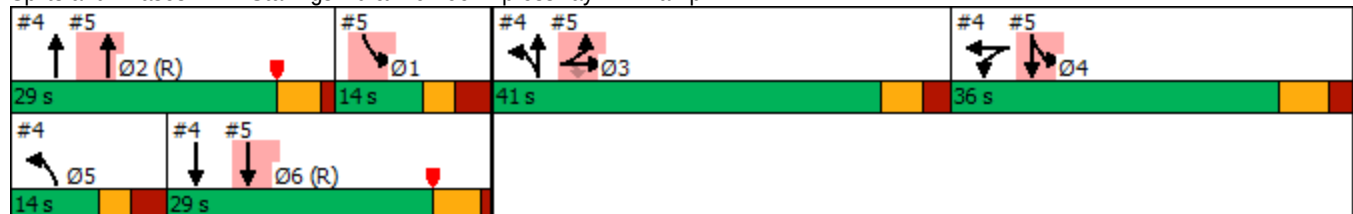
Intersection LOS: D

Intersection Capacity Utilization 64.8%

ICU Level of Service C

Analysis Period (min) 15

## Splits and Phases: 4: Stallings Rd &amp; Monroe Expressway WB Ramp



| Lane Group              | Ø1 | Ø2 | Ø3 | Ø5 |
|-------------------------|----|----|----|----|
| Total Delay             |    |    |    |    |
| LOS                     |    |    |    |    |
| Approach Delay          |    |    |    |    |
| Approach LOS            |    |    |    |    |
| Queue Length 50th (ft)  |    |    |    |    |
| Queue Length 95th (ft)  |    |    |    |    |
| Internal Link Dist (ft) |    |    |    |    |
| Turn Bay Length (ft)    |    |    |    |    |
| Base Capacity (vph)     |    |    |    |    |
| Starvation Cap Reductn  |    |    |    |    |
| Spillback Cap Reductn   |    |    |    |    |
| Storage Cap Reductn     |    |    |    |    |
| Reduced v/c Ratio       |    |    |    |    |
| Intersection Summary    |    |    |    |    |

Lanes, Volumes, Timings  
5: Stallings Rd & Monroe Expressway EB Ramp

Stallings Farms TIA

2027 Build AM

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations     |                                                                                   |  |  |                                                                                   |                                                                                   |                                                                                   |                                                                                    |  |                                                                                     |  |  |                                                                                     |
| Traffic Volume (vph)    | 219                                                                               | 164                                                                               | 407                                                                               | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                  | 707                                                                                 | 62                                                                                  | 202                                                                                 | 552                                                                                 | 0                                                                                   |
| Future Volume (vph)     | 219                                                                               | 164                                                                               | 407                                                                               | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                  | 707                                                                                 | 62                                                                                  | 202                                                                                 | 552                                                                                 | 0                                                                                   |
| Ideal Flow (vphpl)      | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                               | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)     | 175                                                                               |                                                                                   | 325                                                                               | 0                                                                                 |                                                                                   | 0                                                                                 | 425                                                                                |                                                                                     | 275                                                                                 | 0                                                                                   |                                                                                     | 0                                                                                   |
| Storage Lanes           | 0                                                                                 |                                                                                   | 1                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 2                                                                                  |                                                                                     | 0                                                                                   | 2                                                                                   |                                                                                     | 0                                                                                   |
| Taper Length (ft)       | 100                                                                               |                                                                                   |                                                                                   | 25                                                                                |                                                                                   |                                                                                   | 225                                                                                |                                                                                     |                                                                                     | 25                                                                                  |                                                                                     |                                                                                     |
| Lane Util. Factor       | 0.95                                                                              | 0.91                                                                              | 0.91                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                               | 0.86                                                                                | 0.86                                                                                | 0.97                                                                                | 0.95                                                                                | 1.00                                                                                |
| Frt                     |                                                                                   | 0.958                                                                             | 0.850                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 0.984                                                                               |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Flt Protected           |                                                                                   | 0.980                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 0.950                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (prot)       | 0                                                                                 | 3102                                                                              | 1427                                                                              | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                  | 5973                                                                                | 0                                                                                   | 3335                                                                                | 3505                                                                                | 0                                                                                   |
| Flt Permitted           |                                                                                   | 0.980                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 0.950                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (perm)       | 0                                                                                 | 3102                                                                              | 1427                                                                              | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                  | 5973                                                                                | 0                                                                                   | 3335                                                                                | 3505                                                                                | 0                                                                                   |
| Right Turn on Red       |                                                                                   |                                                                                   | No                                                                                |                                                                                   |                                                                                   | No                                                                                |                                                                                    |                                                                                     | No                                                                                  |                                                                                     |                                                                                     | No                                                                                  |
| Satd. Flow (RTOR)       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Link Speed (mph)        |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 30                                                                                |                                                                                   |                                                                                    | 35                                                                                  |                                                                                     |                                                                                     | 35                                                                                  |                                                                                     |
| Link Distance (ft)      |                                                                                   | 1776                                                                              |                                                                                   |                                                                                   | 891                                                                               |                                                                                   |                                                                                    | 1501                                                                                |                                                                                     |                                                                                     | 198                                                                                 |                                                                                     |
| Travel Time (s)         |                                                                                   | 34.6                                                                              |                                                                                   |                                                                                   | 20.3                                                                              |                                                                                   |                                                                                    | 29.2                                                                                |                                                                                     |                                                                                     | 3.9                                                                                 |                                                                                     |
| Peak Hour Factor        | 0.79                                                                              | 0.78                                                                              | 0.81                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                               | 0.92                                                                                | 0.67                                                                                | 0.81                                                                                | 0.92                                                                                | 0.90                                                                                |
| Heavy Vehicles (%)      | 4%                                                                                | 7%                                                                                | 3%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                 | 8%                                                                                  | 5%                                                                                  | 5%                                                                                  | 3%                                                                                  | 2%                                                                                  |
| Adj. Flow (vph)         | 277                                                                               | 210                                                                               | 502                                                                               | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                  | 768                                                                                 | 93                                                                                  | 249                                                                                 | 600                                                                                 | 0                                                                                   |
| Shared Lane Traffic (%) |                                                                                   |                                                                                   | 38%                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)   | 0                                                                                 | 678                                                                               | 311                                                                               | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                  | 861                                                                                 | 0                                                                                   | 249                                                                                 | 600                                                                                 | 0                                                                                   |
| Turn Type               | Split                                                                             | NA                                                                                | Perm                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                    | NA                                                                                  |                                                                                     | Prot                                                                                | NA                                                                                  |                                                                                     |
| Protected Phases        | 3                                                                                 | 3                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 2                                                                                   |                                                                                     | 1 4                                                                                 | 4 6                                                                                 |                                                                                     |
| Permitted Phases        |                                                                                   |                                                                                   | 3                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Detector Phase          | 3                                                                                 | 3                                                                                 | 3                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 2                                                                                   |                                                                                     | 1 4                                                                                 | 4 6                                                                                 |                                                                                     |
| Switch Phase            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)     | 7.0                                                                               | 7.0                                                                               | 7.0                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 10.0                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Split (s)       | 13.4                                                                              | 13.4                                                                              | 13.4                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 24.2                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Total Split (s)         | 41.0                                                                              | 41.0                                                                              | 41.0                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 29.0                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Total Split (%)         | 34.2%                                                                             | 34.2%                                                                             | 34.2%                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 24.2%                                                                               |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Maximum Green (s)       | 34.6                                                                              | 34.6                                                                              | 34.6                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 23.8                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Yellow Time (s)         | 3.8                                                                               | 3.8                                                                               | 3.8                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 3.9                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| All-Red Time (s)        | 2.6                                                                               | 2.6                                                                               | 2.6                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 1.3                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lost Time Adjust (s)    |                                                                                   | -1.4                                                                              | -1.4                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                    | -0.2                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Total Lost Time (s)     |                                                                                   | 5.0                                                                               | 5.0                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 5.0                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lead/Lag                | Lead                                                                              | Lead                                                                              | Lead                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                    | Lead                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lead-Lag Optimize?      | Yes                                                                               | Yes                                                                               | Yes                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                    | Yes                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Vehicle Extension (s)   | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 3.0                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Recall Mode             | None                                                                              | None                                                                              | None                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                    | C-Min                                                                               |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Walk Time (s)           |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 7.0                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Flash Dont Walk (s)     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 12.0                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Pedestrian Calls (#/hr) |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 0                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Act Effct Green (s)     |                                                                                   | 34.5                                                                              | 34.5                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 26.9                                                                                |                                                                                     | 36.0                                                                                | 51.4                                                                                |                                                                                     |
| Actuated g/C Ratio      |                                                                                   | 0.29                                                                              | 0.29                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 0.22                                                                                |                                                                                     | 0.30                                                                                | 0.43                                                                                |                                                                                     |
| v/c Ratio               |                                                                                   | 0.76                                                                              | 0.76                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 0.64                                                                                |                                                                                     | 0.25                                                                                | 0.40                                                                                |                                                                                     |
| Control Delay           |                                                                                   | 45.1                                                                              | 51.7                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 45.7                                                                                |                                                                                     | 7.5                                                                                 | 2.7                                                                                 |                                                                                     |
| Queue Delay             |                                                                                   | 0.6                                                                               | 0.0                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 1.4                                                                                 |                                                                                     | 0.6                                                                                 | 0.4                                                                                 |                                                                                     |

Lanes, Volumes, Timings  
5: Stallings Rd & Monroe Expressway EB Ramp

Stallings Farms TIA  
2027 Build AM

| Lane Group              | Ø1   | Ø4   | Ø5   | Ø6    |
|-------------------------|------|------|------|-------|
| Lane Configurations     |      |      |      |       |
| Traffic Volume (vph)    |      |      |      |       |
| Future Volume (vph)     |      |      |      |       |
| Ideal Flow (vphpl)      |      |      |      |       |
| Storage Length (ft)     |      |      |      |       |
| Storage Lanes           |      |      |      |       |
| Taper Length (ft)       |      |      |      |       |
| Lane Util. Factor       |      |      |      |       |
| Frt                     |      |      |      |       |
| Flt Protected           |      |      |      |       |
| Satd. Flow (prot)       |      |      |      |       |
| Flt Permitted           |      |      |      |       |
| Satd. Flow (perm)       |      |      |      |       |
| Right Turn on Red       |      |      |      |       |
| Satd. Flow (RTOR)       |      |      |      |       |
| Link Speed (mph)        |      |      |      |       |
| Link Distance (ft)      |      |      |      |       |
| Travel Time (s)         |      |      |      |       |
| Peak Hour Factor        |      |      |      |       |
| Heavy Vehicles (%)      |      |      |      |       |
| Adj. Flow (vph)         |      |      |      |       |
| Shared Lane Traffic (%) |      |      |      |       |
| Lane Group Flow (vph)   |      |      |      |       |
| Turn Type               |      |      |      |       |
| Protected Phases        | 1    | 4    | 5    | 6     |
| Permitted Phases        |      |      |      |       |
| Detector Phase          |      |      |      |       |
| Switch Phase            |      |      |      |       |
| Minimum Initial (s)     | 7.0  | 7.0  | 7.0  | 12.0  |
| Minimum Split (s)       | 13.3 | 13.7 | 13.2 | 28.4  |
| Total Split (s)         | 14.0 | 36.0 | 14.0 | 29.0  |
| Total Split (%)         | 12%  | 30%  | 12%  | 24%   |
| Maximum Green (s)       | 7.7  | 29.3 | 7.8  | 23.6  |
| Yellow Time (s)         | 3.0  | 4.3  | 3.0  | 4.4   |
| All-Red Time (s)        | 3.3  | 2.4  | 3.2  | 1.0   |
| Lost Time Adjust (s)    |      |      |      |       |
| Total Lost Time (s)     |      |      |      |       |
| Lead/Lag                | Lag  | Lag  | Lead | Lag   |
| Lead-Lag Optimize?      | Yes  | Yes  | Yes  | Yes   |
| Vehicle Extension (s)   | 3.0  | 3.0  | 3.0  | 3.0   |
| Recall Mode             | None | None | None | C-Min |
| Walk Time (s)           |      |      |      | 7.0   |
| Flash Dont Walk (s)     |      |      |      | 16.0  |
| Pedestrian Calls (#/hr) |      |      |      | 0     |
| Act Effct Green (s)     |      |      |      |       |
| Actuated g/C Ratio      |      |      |      |       |
| v/c Ratio               |      |      |      |       |
| Control Delay           |      |      |      |       |
| Queue Delay             |      |      |      |       |

Lanes, Volumes, Timings  
5: Stallings Rd & Monroe Expressway EB Ramp

Stallings Farms TIA  
2027 Build AM

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Total Delay             |                                                                                   | 45.8                                                                              | 51.7                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 47.1                                                                                |                                                                                     | 8.2                                                                                 | 3.1                                                                                 |                                                                                     |
| LOS                     |                                                                                   | D                                                                                 | D                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                    | D                                                                                   |                                                                                     | A                                                                                   | A                                                                                   |                                                                                     |
| Approach Delay          |                                                                                   | 47.6                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 47.1                                                                                |                                                                                     |                                                                                     | 4.6                                                                                 |                                                                                     |
| Approach LOS            |                                                                                   | D                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    | D                                                                                   |                                                                                     |                                                                                     | A                                                                                   |                                                                                     |
| Queue Length 50th (ft)  |                                                                                   | 258                                                                               | 237                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 184                                                                                 |                                                                                     | 29                                                                                  | 7                                                                                   |                                                                                     |
| Queue Length 95th (ft)  |                                                                                   | 275                                                                               | 308                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 221                                                                                 |                                                                                     | 46                                                                                  | 21                                                                                  |                                                                                     |
| Internal Link Dist (ft) |                                                                                   | 1696                                                                              |                                                                                   |                                                                                   | 811                                                                               |                                                                                   |                                                                                    | 1421                                                                                |                                                                                     |                                                                                     | 118                                                                                 |                                                                                     |
| Turn Bay Length (ft)    |                                                                                   |                                                                                   | 325                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Base Capacity (vph)     |                                                                                   | 930                                                                               | 428                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 1348                                                                                |                                                                                     | 1058                                                                                | 1578                                                                                |                                                                                     |
| Starvation Cap Reductn  |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 0                                                                                   |                                                                                     | 498                                                                                 | 489                                                                                 |                                                                                     |
| Spillback Cap Reductn   |                                                                                   | 63                                                                                | 0                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 288                                                                                 |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     |
| Storage Cap Reductn     |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     |
| Reduced v/c Ratio       |                                                                                   | 0.78                                                                              | 0.73                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 0.81                                                                                |                                                                                     | 0.44                                                                                | 0.55                                                                                |                                                                                     |

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.78

Intersection Signal Delay: 33.9

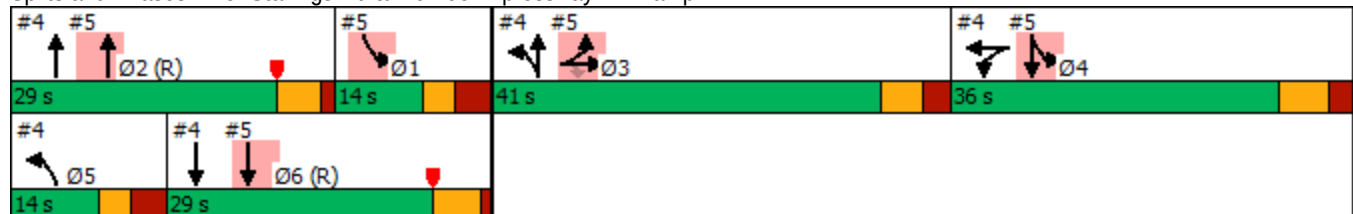
Intersection LOS: C

Intersection Capacity Utilization 64.8%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 5: Stallings Rd & Monroe Expressway EB Ramp





| Lane Group              | Ø1 | Ø4 | Ø5 | Ø6 |
|-------------------------|----|----|----|----|
| Total Delay             |    |    |    |    |
| LOS                     |    |    |    |    |
| Approach Delay          |    |    |    |    |
| Approach LOS            |    |    |    |    |
| Queue Length 50th (ft)  |    |    |    |    |
| Queue Length 95th (ft)  |    |    |    |    |
| Internal Link Dist (ft) |    |    |    |    |
| Turn Bay Length (ft)    |    |    |    |    |
| Base Capacity (vph)     |    |    |    |    |
| Starvation Cap Reductn  |    |    |    |    |
| Spillback Cap Reductn   |    |    |    |    |
| Storage Cap Reductn     |    |    |    |    |
| Reduced v/c Ratio       |    |    |    |    |
| Intersection Summary    |    |    |    |    |

Lanes, Volumes, Timings  
6: Stallings Rd & Matthews-Indian Trail Rd

Stallings Farms TIA  
2027 Build AM

|                         |  |  |  |  |  |  |   |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations     |  |  |                                                                                   |  |  |                                                                                   |  |  |                                                                                     |  |  |                                                                                     |
| Traffic Volume (vph)    | 20                                                                                | 25                                                                                | 64                                                                                | 103                                                                               | 53                                                                                | 113                                                                               | 123                                                                                 | 618                                                                                 | 98                                                                                  | 173                                                                                 | 583                                                                                 | 49                                                                                  |
| Future Volume (vph)     | 20                                                                                | 25                                                                                | 64                                                                                | 103                                                                               | 53                                                                                | 113                                                                               | 123                                                                                 | 618                                                                                 | 98                                                                                  | 173                                                                                 | 583                                                                                 | 49                                                                                  |
| Ideal Flow (vphpl)      | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)     | 140                                                                               |                                                                                   | 0                                                                                 | 140                                                                               |                                                                                   | 0                                                                                 | 120                                                                                 |                                                                                     | 150                                                                                 | 110                                                                                 |                                                                                     | 0                                                                                   |
| Storage Lanes           | 1                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                   |                                                                                     | 0                                                                                   | 1                                                                                   |                                                                                     | 0                                                                                   |
| Taper Length (ft)       | 100                                                                               |                                                                                   |                                                                                   | 75                                                                                |                                                                                   |                                                                                   | 100                                                                                 |                                                                                     |                                                                                     | 100                                                                                 |                                                                                     |                                                                                     |
| Lane Util. Factor       | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Frt                     |                                                                                   | 0.893                                                                             |                                                                                   |                                                                                   | 0.900                                                                             |                                                                                   |                                                                                     | 0.978                                                                               |                                                                                     |                                                                                     | 0.987                                                                               |                                                                                     |
| Flt Protected           | 0.950                                                                             |                                                                                   |                                                                                   | 0.950                                                                             |                                                                                   |                                                                                   | 0.950                                                                               |                                                                                     |                                                                                     | 0.950                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (prot)       | 1543                                                                              | 1618                                                                              | 0                                                                                 | 1467                                                                              | 1634                                                                              | 0                                                                                 | 1770                                                                                | 1721                                                                                | 0                                                                                   | 1770                                                                                | 1822                                                                                | 0                                                                                   |
| Flt Permitted           | 0.570                                                                             |                                                                                   |                                                                                   | 0.679                                                                             |                                                                                   |                                                                                   | 0.280                                                                               |                                                                                     |                                                                                     | 0.204                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (perm)       | 926                                                                               | 1618                                                                              | 0                                                                                 | 1049                                                                              | 1634                                                                              | 0                                                                                 | 522                                                                                 | 1721                                                                                | 0                                                                                   | 380                                                                                 | 1822                                                                                | 0                                                                                   |
| Right Turn on Red       |                                                                                   |                                                                                   | No                                                                                |                                                                                   |                                                                                   | No                                                                                |                                                                                     |                                                                                     | No                                                                                  |                                                                                     |                                                                                     | No                                                                                  |
| Satd. Flow (RTOR)       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Link Speed (mph)        |                                                                                   | 45                                                                                |                                                                                   |                                                                                   | 35                                                                                |                                                                                   |                                                                                     | 35                                                                                  |                                                                                     |                                                                                     | 35                                                                                  |                                                                                     |
| Link Distance (ft)      |                                                                                   | 2002                                                                              |                                                                                   |                                                                                   | 586                                                                               |                                                                                   |                                                                                     | 1248                                                                                |                                                                                     |                                                                                     | 1501                                                                                |                                                                                     |
| Travel Time (s)         |                                                                                   | 30.3                                                                              |                                                                                   |                                                                                   | 11.4                                                                              |                                                                                   |                                                                                     | 24.3                                                                                |                                                                                     |                                                                                     | 29.2                                                                                |                                                                                     |
| Peak Hour Factor        | 0.79                                                                              | 0.72                                                                              | 0.74                                                                              | 0.68                                                                              | 0.71                                                                              | 0.76                                                                              | 0.81                                                                                | 0.87                                                                                | 0.82                                                                                | 0.87                                                                                | 0.89                                                                                | 0.82                                                                                |
| Heavy Vehicles (%)      | 17%                                                                               | 2%                                                                                | 6%                                                                                | 23%                                                                               | 8%                                                                                | 3%                                                                                | 2%                                                                                  | 8%                                                                                  | 8%                                                                                  | 2%                                                                                  | 3%                                                                                  | 2%                                                                                  |
| Adj. Flow (vph)         | 25                                                                                | 35                                                                                | 86                                                                                | 151                                                                               | 75                                                                                | 149                                                                               | 152                                                                                 | 710                                                                                 | 120                                                                                 | 199                                                                                 | 655                                                                                 | 60                                                                                  |
| Shared Lane Traffic (%) |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)   | 25                                                                                | 121                                                                               | 0                                                                                 | 151                                                                               | 224                                                                               | 0                                                                                 | 152                                                                                 | 830                                                                                 | 0                                                                                   | 199                                                                                 | 715                                                                                 | 0                                                                                   |
| Turn Type               | Perm                                                                              | NA                                                                                |                                                                                   | Perm                                                                              | NA                                                                                |                                                                                   | Perm                                                                                | NA                                                                                  |                                                                                     | Perm                                                                                | NA                                                                                  |                                                                                     |
| Protected Phases        |                                                                                   | 4                                                                                 |                                                                                   |                                                                                   | 8                                                                                 |                                                                                   |                                                                                     | 2                                                                                   |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     |
| Permitted Phases        | 4                                                                                 |                                                                                   |                                                                                   | 8                                                                                 |                                                                                   |                                                                                   | 2                                                                                   |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     |                                                                                     |
| Detector Phase          | 4                                                                                 | 4                                                                                 |                                                                                   | 8                                                                                 | 8                                                                                 |                                                                                   | 2                                                                                   | 2                                                                                   |                                                                                     | 6                                                                                   | 6                                                                                   |                                                                                     |
| Switch Phase            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)     | 7.0                                                                               | 7.0                                                                               |                                                                                   | 7.0                                                                               | 7.0                                                                               |                                                                                   | 10.0                                                                                | 10.0                                                                                |                                                                                     | 10.0                                                                                | 10.0                                                                                |                                                                                     |
| Minimum Split (s)       | 12.3                                                                              | 12.3                                                                              |                                                                                   | 12.7                                                                              | 12.7                                                                              |                                                                                   | 34.4                                                                                | 34.4                                                                                |                                                                                     | 15.3                                                                                | 15.3                                                                                |                                                                                     |
| Total Split (s)         | 18.0                                                                              | 18.0                                                                              |                                                                                   | 18.0                                                                              | 18.0                                                                              |                                                                                   | 42.0                                                                                | 42.0                                                                                |                                                                                     | 42.0                                                                                | 42.0                                                                                |                                                                                     |
| Total Split (%)         | 30.0%                                                                             | 30.0%                                                                             |                                                                                   | 30.0%                                                                             | 30.0%                                                                             |                                                                                   | 70.0%                                                                               | 70.0%                                                                               |                                                                                     | 70.0%                                                                               | 70.0%                                                                               |                                                                                     |
| Maximum Green (s)       | 12.7                                                                              | 12.7                                                                              |                                                                                   | 12.3                                                                              | 12.3                                                                              |                                                                                   | 36.6                                                                                | 36.6                                                                                |                                                                                     | 36.7                                                                                | 36.7                                                                                |                                                                                     |
| Yellow Time (s)         | 3.6                                                                               | 3.6                                                                               |                                                                                   | 4.0                                                                               | 4.0                                                                               |                                                                                   | 3.8                                                                                 | 3.8                                                                                 |                                                                                     | 3.6                                                                                 | 3.6                                                                                 |                                                                                     |
| All-Red Time (s)        | 1.7                                                                               | 1.7                                                                               |                                                                                   | 1.7                                                                               | 1.7                                                                               |                                                                                   | 1.6                                                                                 | 1.6                                                                                 |                                                                                     | 1.7                                                                                 | 1.7                                                                                 |                                                                                     |
| Lost Time Adjust (s)    | -0.3                                                                              | -0.3                                                                              |                                                                                   | -0.7                                                                              | -0.7                                                                              |                                                                                   | -0.4                                                                                | -0.4                                                                                |                                                                                     | -0.3                                                                                | -0.3                                                                                |                                                                                     |
| Total Lost Time (s)     | 5.0                                                                               | 5.0                                                                               |                                                                                   | 5.0                                                                               | 5.0                                                                               |                                                                                   | 5.0                                                                                 | 5.0                                                                                 |                                                                                     | 5.0                                                                                 | 5.0                                                                                 |                                                                                     |
| Lead/Lag                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lead-Lag Optimize?      |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Vehicle Extension (s)   | 2.0                                                                               | 2.0                                                                               |                                                                                   | 2.0                                                                               | 2.0                                                                               |                                                                                   | 3.0                                                                                 | 3.0                                                                                 |                                                                                     | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |
| Recall Mode             | None                                                                              | None                                                                              |                                                                                   | None                                                                              | None                                                                              |                                                                                   | Min                                                                                 | Min                                                                                 |                                                                                     | Min                                                                                 | Min                                                                                 |                                                                                     |
| Walk Time (s)           |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 7.0                                                                                 | 7.0                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Flash Dont Walk (s)     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 22.0                                                                                | 22.0                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Pedestrian Calls (#/hr) |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Act Effct Green (s)     | 11.4                                                                              | 11.4                                                                              |                                                                                   | 11.4                                                                              | 11.4                                                                              |                                                                                   | 31.5                                                                                | 31.5                                                                                |                                                                                     | 31.5                                                                                | 31.5                                                                                |                                                                                     |
| Actuated g/C Ratio      | 0.21                                                                              | 0.21                                                                              |                                                                                   | 0.21                                                                              | 0.21                                                                              |                                                                                   | 0.59                                                                                | 0.59                                                                                |                                                                                     | 0.59                                                                                | 0.59                                                                                |                                                                                     |
| v/c Ratio               | 0.13                                                                              | 0.35                                                                              |                                                                                   | 0.67                                                                              | 0.64                                                                              |                                                                                   | 0.49                                                                                | 0.81                                                                                |                                                                                     | 0.88                                                                                | 0.66                                                                                |                                                                                     |
| Control Delay           | 20.9                                                                              | 22.9                                                                              |                                                                                   | 39.3                                                                              | 30.7                                                                              |                                                                                   | 13.0                                                                                | 16.9                                                                                |                                                                                     | 52.8                                                                                | 10.9                                                                                |                                                                                     |
| Queue Delay             | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                                 | 0.0                                                                                 |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |

Lanes, Volumes, Timings  
6: Stallings Rd & Matthews-Indian Trail Rd

Stallings Farms TIA  
2027 Build AM

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Total Delay             | 20.9                                                                              | 22.9                                                                              |                                                                                   | 39.3                                                                              | 30.7                                                                              |                                                                                   | 13.0                                                                               | 16.9                                                                                |                                                                                     | 52.8                                                                                | 10.9                                                                                |                                                                                     |
| LOS                     | C                                                                                 | C                                                                                 |                                                                                   | D                                                                                 | C                                                                                 |                                                                                   | B                                                                                  | B                                                                                   |                                                                                     | D                                                                                   | B                                                                                   |                                                                                     |
| Approach Delay          |                                                                                   | 22.6                                                                              |                                                                                   |                                                                                   | 34.1                                                                              |                                                                                   |                                                                                    | 16.3                                                                                |                                                                                     |                                                                                     | 20.0                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | C                                                                                 |                                                                                   |                                                                                   | C                                                                                 |                                                                                   |                                                                                    | B                                                                                   |                                                                                     |                                                                                     | C                                                                                   |                                                                                     |
| Queue Length 50th (ft)  | 7                                                                                 | 37                                                                                |                                                                                   | 50                                                                                | 74                                                                                |                                                                                   | 25                                                                                 | 190                                                                                 |                                                                                     | 49                                                                                  | 139                                                                                 |                                                                                     |
| Queue Length 95th (ft)  | 22                                                                                | 61                                                                                |                                                                                   | 74                                                                                | 103                                                                               |                                                                                   | 57                                                                                 | 312                                                                                 |                                                                                     | #166                                                                                | 230                                                                                 |                                                                                     |
| Internal Link Dist (ft) |                                                                                   | 1922                                                                              |                                                                                   |                                                                                   | 506                                                                               |                                                                                   |                                                                                    | 1168                                                                                |                                                                                     |                                                                                     | 1421                                                                                |                                                                                     |
| Turn Bay Length (ft)    | 140                                                                               |                                                                                   |                                                                                   | 140                                                                               |                                                                                   |                                                                                   | 120                                                                                |                                                                                     |                                                                                     | 110                                                                                 |                                                                                     |                                                                                     |
| Base Capacity (vph)     | 233                                                                               | 408                                                                               |                                                                                   | 264                                                                               | 412                                                                               |                                                                                   | 374                                                                                | 1236                                                                                |                                                                                     | 273                                                                                 | 1308                                                                                |                                                                                     |
| Starvation Cap Reductn  | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                  | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     |
| Spillback Cap Reductn   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                  | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     |
| Storage Cap Reductn     | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                  | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     |
| Reduced v/c Ratio       | 0.11                                                                              | 0.30                                                                              |                                                                                   | 0.57                                                                              | 0.54                                                                              |                                                                                   | 0.41                                                                               | 0.67                                                                                |                                                                                     | 0.73                                                                                | 0.55                                                                                |                                                                                     |

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 53.2

Natural Cycle: 65

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.88

Intersection Signal Delay: 20.9

Intersection LOS: C

Intersection Capacity Utilization 77.2%

ICU Level of Service D

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 6: Stallings Rd & Matthews-Indian Trail Rd

|                                                                                        |                                                                                          |
|----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
|  Ø2 |  Ø4 |
| 42 s                                                                                   | 18 s                                                                                     |
|  Ø6 |  Ø8 |
| 42 s                                                                                   | 18 s                                                                                     |

Lanes, Volumes, Timings  
7: Mt. Harmony Church Rd & Stevens Mill Rd

Stallings Farms TIA  
2027 Build AM

|                         |  |       |      |       |       |      |      |       |      |       |       |      |
|-------------------------|------------------------------------------------------------------------------------|-------|------|-------|-------|------|------|-------|------|-------|-------|------|
| Lane Group              | EBL                                                                                | EBT   | EBR  | WBL   | WBT   | WBR  | NBL  | NBT   | NBR  | SBL   | SBT   | SBR  |
| Lane Configurations     |                                                                                    | ↕     |      | ↗     | ↖     |      |      | ↕     |      | ↗     | ↖     |      |
| Traffic Volume (vph)    | 10                                                                                 | 5     | 4    | 52    | 20    | 361  | 8    | 120   | 57   | 172   | 82    | 20   |
| Future Volume (vph)     | 10                                                                                 | 5     | 4    | 52    | 20    | 361  | 8    | 120   | 57   | 172   | 82    | 20   |
| Ideal Flow (vphpl)      | 1900                                                                               | 1900  | 1900 | 1900  | 1900  | 1900 | 1900 | 1900  | 1900 | 1900  | 1900  | 1900 |
| Storage Length (ft)     | 0                                                                                  |       | 0    | 125   |       | 0    | 0    |       | 0    | 150   |       | 0    |
| Storage Lanes           | 0                                                                                  |       | 0    | 1     |       | 0    | 0    |       | 0    | 1     |       | 0    |
| Taper Length (ft)       | 25                                                                                 |       |      | 125   |       |      | 25   |       |      | 100   |       |      |
| Lane Util. Factor       | 1.00                                                                               | 1.00  | 1.00 | 1.00  | 1.00  | 1.00 | 1.00 | 1.00  | 1.00 | 1.00  | 1.00  | 1.00 |
| Frt                     |                                                                                    | 0.957 |      |       | 0.859 |      |      | 0.958 |      |       | 0.965 |      |
| Flt Protected           |                                                                                    | 0.979 |      | 0.950 |       |      |      | 0.996 |      | 0.950 |       |      |
| Satd. Flow (prot)       | 0                                                                                  | 1351  | 0    | 1752  | 1485  | 0    | 0    | 1751  | 0    | 1770  | 1754  | 0    |
| Flt Permitted           |                                                                                    | 0.979 |      | 0.950 |       |      |      | 0.996 |      | 0.950 |       |      |
| Satd. Flow (perm)       | 0                                                                                  | 1351  | 0    | 1752  | 1485  | 0    | 0    | 1751  | 0    | 1770  | 1754  | 0    |
| Link Speed (mph)        |                                                                                    | 35    |      |       | 35    |      |      | 35    |      |       | 35    |      |
| Link Distance (ft)      |                                                                                    | 831   |      |       | 703   |      |      | 907   |      |       | 461   |      |
| Travel Time (s)         |                                                                                    | 16.2  |      |       | 13.7  |      |      | 17.7  |      |       | 9.0   |      |
| Peak Hour Factor        | 0.48                                                                               | 0.38  | 0.25 | 0.60  | 0.69  | 0.77 | 0.38 | 0.65  | 0.62 | 0.66  | 0.70  | 0.57 |
| Heavy Vehicles (%)      | 17%                                                                                | 33%   | 50%  | 3%    | 57%   | 7%   | 2%   | 2%    | 7%   | 2%    | 2%    | 13%  |
| Adj. Flow (vph)         | 21                                                                                 | 13    | 16   | 87    | 29    | 469  | 21   | 185   | 92   | 261   | 117   | 35   |
| Shared Lane Traffic (%) |                                                                                    |       |      |       |       |      |      |       |      |       |       |      |
| Lane Group Flow (vph)   | 0                                                                                  | 50    | 0    | 87    | 498   | 0    | 0    | 298   | 0    | 261   | 152   | 0    |
| Sign Control            |                                                                                    | Stop  |      |       | Stop  |      |      | Free  |      |       | Free  |      |

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 53.1% ICU Level of Service A

Analysis Period (min) 15

# HCM Unsignalized Intersection Capacity Analysis

## 7: Mt. Harmony Church Rd & Stevens Mill Rd

Stallings Farms TIA  
2027 Build AM

|                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                                   |  |  |  |  |  |  |  |  |  |  |  |  |
| Movement                          | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |                                                                                   |  |                                                                                   |  |  |                                                                                   |                                                                                    |  |                                                                                     |  |  |                                                                                     |
| Traffic Volume (veh/h)            | 10                                                                                | 5                                                                                 | 4                                                                                 | 52                                                                                | 20                                                                                | 361                                                                               | 8                                                                                  | 120                                                                                 | 57                                                                                  | 172                                                                                 | 82                                                                                  | 20                                                                                  |
| Future Volume (Veh/h)             | 10                                                                                | 5                                                                                 | 4                                                                                 | 52                                                                                | 20                                                                                | 361                                                                               | 8                                                                                  | 120                                                                                 | 57                                                                                  | 172                                                                                 | 82                                                                                  | 20                                                                                  |
| Sign Control                      |                                                                                   | Stop                                                                              |                                                                                   |                                                                                   | Stop                                                                              |                                                                                   |                                                                                    | Free                                                                                |                                                                                     |                                                                                     | Free                                                                                |                                                                                     |
| Grade                             |                                                                                   | 0%                                                                                |                                                                                   |                                                                                   | 0%                                                                                |                                                                                   |                                                                                    | 0%                                                                                  |                                                                                     |                                                                                     | 0%                                                                                  |                                                                                     |
| Peak Hour Factor                  | 0.48                                                                              | 0.38                                                                              | 0.25                                                                              | 0.60                                                                              | 0.69                                                                              | 0.77                                                                              | 0.38                                                                               | 0.65                                                                                | 0.62                                                                                | 0.66                                                                                | 0.70                                                                                | 0.57                                                                                |
| Hourly flow rate (vph)            | 21                                                                                | 13                                                                                | 16                                                                                | 87                                                                                | 29                                                                                | 469                                                                               | 21                                                                                 | 185                                                                                 | 92                                                                                  | 261                                                                                 | 117                                                                                 | 35                                                                                  |
| Pedestrians                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Width (ft)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Walking Speed (ft/s)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Percent Blockage                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Right turn flare (veh)            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Median type                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    | None                                                                                |                                                                                     |                                                                                     | None                                                                                |                                                                                     |
| Median storage (veh)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Upstream signal (ft)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| pX, platoon unblocked             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| vC, conflicting volume            | 1413                                                                              | 976                                                                               | 134                                                                               | 934                                                                               | 947                                                                               | 231                                                                               | 152                                                                                |                                                                                     |                                                                                     | 277                                                                                 |                                                                                     |                                                                                     |
| vC1, stage 1 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| vC2, stage 2 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| vCu, unblocked vol                | 1413                                                                              | 976                                                                               | 134                                                                               | 934                                                                               | 947                                                                               | 231                                                                               | 152                                                                                |                                                                                     |                                                                                     | 277                                                                                 |                                                                                     |                                                                                     |
| tC, single (s)                    | 7.3                                                                               | 6.8                                                                               | 6.7                                                                               | 7.1                                                                               | 7.1                                                                               | 6.3                                                                               | 4.1                                                                                |                                                                                     |                                                                                     | 4.1                                                                                 |                                                                                     |                                                                                     |
| tC, 2 stage (s)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| tF (s)                            | 3.7                                                                               | 4.3                                                                               | 3.8                                                                               | 3.5                                                                               | 4.5                                                                               | 3.4                                                                               | 2.2                                                                                |                                                                                     |                                                                                     | 2.2                                                                                 |                                                                                     |                                                                                     |
| p0 queue free %                   | 34                                                                                | 93                                                                                | 98                                                                                | 54                                                                                | 83                                                                                | 41                                                                                | 99                                                                                 |                                                                                     |                                                                                     | 80                                                                                  |                                                                                     |                                                                                     |
| cM capacity (veh/h)               | 32                                                                                | 175                                                                               | 801                                                                               | 189                                                                               | 167                                                                               | 796                                                                               | 1429                                                                               |                                                                                     |                                                                                     | 1286                                                                                |                                                                                     |                                                                                     |
| Direction, Lane #                 | EB 1                                                                              | WB 1                                                                              | WB 2                                                                              | NB 1                                                                              | SB 1                                                                              | SB 2                                                                              |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Total                      | 50                                                                                | 87                                                                                | 498                                                                               | 298                                                                               | 261                                                                               | 152                                                                               |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Left                       | 21                                                                                | 87                                                                                | 0                                                                                 | 21                                                                                | 261                                                                               | 0                                                                                 |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Right                      | 16                                                                                | 0                                                                                 | 469                                                                               | 92                                                                                | 0                                                                                 | 35                                                                                |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| cSH                               | 67                                                                                | 189                                                                               | 652                                                                               | 1429                                                                              | 1286                                                                              | 1700                                                                              |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume to Capacity                | 0.75                                                                              | 0.46                                                                              | 0.76                                                                              | 0.01                                                                              | 0.20                                                                              | 0.09                                                                              |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Queue Length 95th (ft)            | 85                                                                                | 54                                                                                | 177                                                                               | 1                                                                                 | 19                                                                                | 0                                                                                 |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Control Delay (s)                 | 149.7                                                                             | 39.2                                                                              | 26.0                                                                              | 0.7                                                                               | 8.5                                                                               | 0.0                                                                               |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane LOS                          | F                                                                                 | E                                                                                 | D                                                                                 | A                                                                                 | A                                                                                 |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Approach Delay (s)                | 149.7                                                                             | 28.0                                                                              |                                                                                   | 0.7                                                                               | 5.4                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Approach LOS                      | F                                                                                 | D                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Average Delay                     |                                                                                   |                                                                                   | 19.5                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 53.1%                                                                             |                                                                                   |                                                                                   | ICU Level of Service                                                              | A                                                                                  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

Lanes, Volumes, Timings  
8: Oakspring Rd & Stevens Mill Rd

Stallings Farms TIA  
2027 Build AM

|                                   |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group                        | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | NBL                                                                               | NBR                                                                               |
| Lane Configurations               |  |                                                                                   |                                                                                   |  |  |  |
| Traffic Volume (vph)              | 295                                                                               | 383                                                                               | 184                                                                               | 624                                                                               | 295                                                                               | 102                                                                               |
| Future Volume (vph)               | 295                                                                               | 383                                                                               | 184                                                                               | 624                                                                               | 295                                                                               | 102                                                                               |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Storage Length (ft)               |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 100                                                                               |
| Storage Lanes                     |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 1                                                                                 | 1                                                                                 |
| Taper Length (ft)                 |                                                                                   |                                                                                   | 25                                                                                |                                                                                   | 25                                                                                |                                                                                   |
| Lane Util. Factor                 | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Frt                               | 0.936                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.850                                                                             |
| Flt Protected                     |                                                                                   |                                                                                   |                                                                                   | 0.990                                                                             | 0.950                                                                             |                                                                                   |
| Satd. Flow (prot)                 | 1726                                                                              | 0                                                                                 | 0                                                                                 | 1844                                                                              | 1719                                                                              | 1442                                                                              |
| Flt Permitted                     |                                                                                   |                                                                                   |                                                                                   | 0.990                                                                             | 0.950                                                                             |                                                                                   |
| Satd. Flow (perm)                 | 1726                                                                              | 0                                                                                 | 0                                                                                 | 1844                                                                              | 1719                                                                              | 1442                                                                              |
| Link Speed (mph)                  | 45                                                                                |                                                                                   |                                                                                   | 45                                                                                | 35                                                                                |                                                                                   |
| Link Distance (ft)                | 940                                                                               |                                                                                   |                                                                                   | 594                                                                               | 477                                                                               |                                                                                   |
| Travel Time (s)                   | 14.2                                                                              |                                                                                   |                                                                                   | 9.0                                                                               | 9.3                                                                               |                                                                                   |
| Peak Hour Factor                  | 0.59                                                                              | 0.86                                                                              | 0.81                                                                              | 0.74                                                                              | 0.90                                                                              | 0.81                                                                              |
| Heavy Vehicles (%)                | 4%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                | 5%                                                                                | 12%                                                                               |
| Adj. Flow (vph)                   | 500                                                                               | 445                                                                               | 227                                                                               | 843                                                                               | 328                                                                               | 126                                                                               |
| Shared Lane Traffic (%)           |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)             | 945                                                                               | 0                                                                                 | 0                                                                                 | 1070                                                                              | 328                                                                               | 126                                                                               |
| Sign Control                      | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              | Stop                                                                              |                                                                                   |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Area Type:                        | Other                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Control Type:                     | Unsignalized                                                                      |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization | 108.3%                                                                            |                                                                                   |                                                                                   | ICU Level of Service G                                                            |                                                                                   |                                                                                   |
| Analysis Period (min)             | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |

# HCM Unsignalized Intersection Capacity Analysis

## 8: Oakspring Rd & Stevens Mill Rd

Stallings Farms TIA  
2027 Build AM

|                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|                                   |  |  |  |  |  |  |
| Movement                          | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | NBL                                                                               | NBR                                                                               |
| Lane Configurations               |  |                                                                                   |                                                                                   |  |  |  |
| Traffic Volume (veh/h)            | 295                                                                               | 383                                                                               | 184                                                                               | 624                                                                               | 295                                                                               | 102                                                                               |
| Future Volume (Veh/h)             | 295                                                                               | 383                                                                               | 184                                                                               | 624                                                                               | 295                                                                               | 102                                                                               |
| Sign Control                      | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              | Stop                                                                              |                                                                                   |
| Grade                             | 0%                                                                                |                                                                                   |                                                                                   | 0%                                                                                | 0%                                                                                |                                                                                   |
| Peak Hour Factor                  | 0.59                                                                              | 0.86                                                                              | 0.81                                                                              | 0.74                                                                              | 0.90                                                                              | 0.81                                                                              |
| Hourly flow rate (vph)            | 500                                                                               | 445                                                                               | 227                                                                               | 843                                                                               | 328                                                                               | 126                                                                               |
| Pedestrians                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Width (ft)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Walking Speed (ft/s)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Percent Blockage                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Right turn flare (veh)            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 4                                                                                 |
| Median type                       | None                                                                              |                                                                                   |                                                                                   | None                                                                              |                                                                                   |                                                                                   |
| Median storage veh                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Upstream signal (ft)              | 940                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| pX, platoon unblocked             |                                                                                   |                                                                                   | 0.80                                                                              |                                                                                   | 0.80                                                                              | 0.80                                                                              |
| vC, conflicting volume            |                                                                                   |                                                                                   | 945                                                                               |                                                                                   | 2020                                                                              | 722                                                                               |
| vC1, stage 1 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC2, stage 2 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vCu, unblocked vol                |                                                                                   |                                                                                   | 807                                                                               |                                                                                   | 2149                                                                              | 529                                                                               |
| tC, single (s)                    |                                                                                   |                                                                                   | 4.1                                                                               |                                                                                   | 6.4                                                                               | 6.3                                                                               |
| tC, 2 stage (s)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| tF (s)                            |                                                                                   |                                                                                   | 2.2                                                                               |                                                                                   | 3.5                                                                               | 3.4                                                                               |
| p0 queue free %                   |                                                                                   |                                                                                   | 65                                                                                |                                                                                   | 0                                                                                 | 70                                                                                |
| cM capacity (veh/h)               |                                                                                   |                                                                                   | 655                                                                               |                                                                                   | 27                                                                                | 425                                                                               |
| Direction, Lane #                 | EB 1                                                                              | WB 1                                                                              | NB 1                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Volume Total                      | 945                                                                               | 1070                                                                              | 454                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Volume Left                       | 0                                                                                 | 227                                                                               | 328                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Volume Right                      | 445                                                                               | 0                                                                                 | 126                                                                               |                                                                                   |                                                                                   |                                                                                   |
| cSH                               | 1700                                                                              | 655                                                                               | 37                                                                                |                                                                                   |                                                                                   |                                                                                   |
| Volume to Capacity                | 0.56                                                                              | 0.35                                                                              | 12.34                                                                             |                                                                                   |                                                                                   |                                                                                   |
| Queue Length 95th (ft)            | 0                                                                                 | 39                                                                                | Err                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Control Delay (s)                 | 0.0                                                                               | 10.1                                                                              | Err                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Lane LOS                          |                                                                                   | B                                                                                 | F                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| Approach Delay (s)                | 0.0                                                                               | 10.1                                                                              | Err                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Approach LOS                      |                                                                                   |                                                                                   | F                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Average Delay                     |                                                                                   | 1843.0                                                                            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization |                                                                                   | 108.3%                                                                            | ICU Level of Service                                                              | G                                                                                 |                                                                                   |                                                                                   |
| Analysis Period (min)             |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |



Lanes, Volumes, Timings  
9: Stallings Rd & Access #1

Stallings Farms TIA  
2027 Build AM

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|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations     |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                   |                                                                                    |  |                                                                                     |                                                                                     |  |                                                                                     |
| Traffic Volume (vph)    | 12                                                                                | 0                                                                                 | 24                                                                                | 51                                                                                | 0                                                                                 | 15                                                                                | 8                                                                                  | 344                                                                                 | 17                                                                                  | 5                                                                                   | 604                                                                                 | 4                                                                                   |
| Future Volume (vph)     | 12                                                                                | 0                                                                                 | 24                                                                                | 51                                                                                | 0                                                                                 | 15                                                                                | 8                                                                                  | 344                                                                                 | 17                                                                                  | 5                                                                                   | 604                                                                                 | 4                                                                                   |
| Ideal Flow (vphpl)      | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                               | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Lane Util. Factor       | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                               | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Frt                     |                                                                                   | 0.909                                                                             |                                                                                   |                                                                                   | 0.969                                                                             |                                                                                   |                                                                                    | 0.994                                                                               |                                                                                     |                                                                                     | 0.999                                                                               |                                                                                     |
| Flt Protected           |                                                                                   | 0.984                                                                             |                                                                                   |                                                                                   | 0.963                                                                             |                                                                                   |                                                                                    | 0.999                                                                               |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Satd. Flow (prot)       | 0                                                                                 | 1666                                                                              | 0                                                                                 | 0                                                                                 | 1738                                                                              | 0                                                                                 | 0                                                                                  | 1784                                                                                | 0                                                                                   | 0                                                                                   | 1843                                                                                | 0                                                                                   |
| Flt Permitted           |                                                                                   | 0.984                                                                             |                                                                                   |                                                                                   | 0.963                                                                             |                                                                                   |                                                                                    | 0.999                                                                               |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Satd. Flow (perm)       | 0                                                                                 | 1666                                                                              | 0                                                                                 | 0                                                                                 | 1738                                                                              | 0                                                                                 | 0                                                                                  | 1784                                                                                | 0                                                                                   | 0                                                                                   | 1843                                                                                | 0                                                                                   |
| Link Speed (mph)        |                                                                                   | 25                                                                                |                                                                                   |                                                                                   | 25                                                                                |                                                                                   |                                                                                    | 45                                                                                  |                                                                                     |                                                                                     | 45                                                                                  |                                                                                     |
| Link Distance (ft)      |                                                                                   | 1027                                                                              |                                                                                   |                                                                                   | 1025                                                                              |                                                                                   |                                                                                    | 1224                                                                                |                                                                                     |                                                                                     | 447                                                                                 |                                                                                     |
| Travel Time (s)         |                                                                                   | 28.0                                                                              |                                                                                   |                                                                                   | 28.0                                                                              |                                                                                   |                                                                                    | 18.5                                                                                |                                                                                     |                                                                                     | 6.8                                                                                 |                                                                                     |
| Peak Hour Factor        | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                               | 0.81                                                                                | 0.90                                                                                | 0.90                                                                                | 0.75                                                                                | 0.90                                                                                |
| Heavy Vehicles (%)      | 2%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                 | 6%                                                                                  | 2%                                                                                  | 2%                                                                                  | 3%                                                                                  | 2%                                                                                  |
| Adj. Flow (vph)         | 13                                                                                | 0                                                                                 | 27                                                                                | 57                                                                                | 0                                                                                 | 17                                                                                | 9                                                                                  | 425                                                                                 | 19                                                                                  | 6                                                                                   | 805                                                                                 | 4                                                                                   |
| Shared Lane Traffic (%) |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)   | 0                                                                                 | 40                                                                                | 0                                                                                 | 0                                                                                 | 74                                                                                | 0                                                                                 | 0                                                                                  | 453                                                                                 | 0                                                                                   | 0                                                                                   | 815                                                                                 | 0                                                                                   |
| Sign Control            |                                                                                   | Stop                                                                              |                                                                                   |                                                                                   | Stop                                                                              |                                                                                   |                                                                                    | Free                                                                                |                                                                                     |                                                                                     | Free                                                                                |                                                                                     |

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 48.9%

ICU Level of Service A

Analysis Period (min) 15

# HCM Unsignalized Intersection Capacity Analysis

Stallings Farms TIA

## 9: Stallings Rd & Access #1

2027 Build AM

|                                   |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                          | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                   |                                                                                    |  |                                                                                     |                                                                                     |  |                                                                                     |
| Traffic Volume (veh/h)            | 12                                                                                | 0                                                                                 | 24                                                                                | 51                                                                                | 0                                                                                 | 15                                                                                | 8                                                                                  | 344                                                                                 | 17                                                                                  | 5                                                                                   | 604                                                                                 | 4                                                                                   |
| Future Volume (Veh/h)             | 12                                                                                | 0                                                                                 | 24                                                                                | 51                                                                                | 0                                                                                 | 15                                                                                | 8                                                                                  | 344                                                                                 | 17                                                                                  | 5                                                                                   | 604                                                                                 | 4                                                                                   |
| Sign Control                      |                                                                                   | Stop                                                                              |                                                                                   |                                                                                   | Stop                                                                              |                                                                                   |                                                                                    | Free                                                                                |                                                                                     |                                                                                     | Free                                                                                |                                                                                     |
| Grade                             |                                                                                   | 0%                                                                                |                                                                                   |                                                                                   | 0%                                                                                |                                                                                   |                                                                                    | 0%                                                                                  |                                                                                     |                                                                                     | 0%                                                                                  |                                                                                     |
| Peak Hour Factor                  | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                               | 0.81                                                                                | 0.90                                                                                | 0.90                                                                                | 0.75                                                                                | 0.90                                                                                |
| Hourly flow rate (vph)            | 13                                                                                | 0                                                                                 | 27                                                                                | 57                                                                                | 0                                                                                 | 17                                                                                | 9                                                                                  | 425                                                                                 | 19                                                                                  | 6                                                                                   | 805                                                                                 | 4                                                                                   |
| Pedestrians                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Width (ft)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Walking Speed (ft/s)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Percent Blockage                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Right turn flare (veh)            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Median type                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    | None                                                                                |                                                                                     |                                                                                     | None                                                                                |                                                                                     |
| Median storage (veh)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Upstream signal (ft)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 447                                                                                 |                                                                                     |
| pX, platoon unblocked             | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              |                                                                                   | 0.88                                                                               |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| vC, conflicting volume            | 1288                                                                              | 1281                                                                              | 807                                                                               | 1298                                                                              | 1274                                                                              | 434                                                                               | 809                                                                                |                                                                                     |                                                                                     | 444                                                                                 |                                                                                     |                                                                                     |
| vC1, stage 1 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| vC2, stage 2 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| vCu, unblocked vol                | 1258                                                                              | 1250                                                                              | 708                                                                               | 1270                                                                              | 1241                                                                              | 434                                                                               | 711                                                                                |                                                                                     |                                                                                     | 444                                                                                 |                                                                                     |                                                                                     |
| tC, single (s)                    | 7.1                                                                               | 6.5                                                                               | 6.2                                                                               | 7.1                                                                               | 6.5                                                                               | 6.2                                                                               | 4.1                                                                                |                                                                                     |                                                                                     | 4.1                                                                                 |                                                                                     |                                                                                     |
| tC, 2 stage (s)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| tF (s)                            | 3.5                                                                               | 4.0                                                                               | 3.3                                                                               | 3.5                                                                               | 4.0                                                                               | 3.3                                                                               | 2.2                                                                                |                                                                                     |                                                                                     | 2.2                                                                                 |                                                                                     |                                                                                     |
| p0 queue free %                   | 90                                                                                | 100                                                                               | 93                                                                                | 51                                                                                | 100                                                                               | 97                                                                                | 99                                                                                 |                                                                                     |                                                                                     | 99                                                                                  |                                                                                     |                                                                                     |
| cM capacity (veh/h)               | 124                                                                               | 149                                                                               | 380                                                                               | 116                                                                               | 150                                                                               | 622                                                                               | 778                                                                                |                                                                                     |                                                                                     | 1116                                                                                |                                                                                     |                                                                                     |
| Direction, Lane #                 | EB 1                                                                              | WB 1                                                                              | NB 1                                                                              | SB 1                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Total                      | 40                                                                                | 74                                                                                | 453                                                                               | 815                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Left                       | 13                                                                                | 57                                                                                | 9                                                                                 | 6                                                                                 |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Right                      | 27                                                                                | 17                                                                                | 19                                                                                | 4                                                                                 |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| cSH                               | 228                                                                               | 143                                                                               | 778                                                                               | 1116                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume to Capacity                | 0.18                                                                              | 0.52                                                                              | 0.01                                                                              | 0.01                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Queue Length 95th (ft)            | 16                                                                                | 62                                                                                | 1                                                                                 | 0                                                                                 |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Control Delay (s)                 | 24.2                                                                              | 54.4                                                                              | 0.3                                                                               | 0.1                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane LOS                          | C                                                                                 | F                                                                                 | A                                                                                 | A                                                                                 |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Approach Delay (s)                | 24.2                                                                              | 54.4                                                                              | 0.3                                                                               | 0.1                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Approach LOS                      | C                                                                                 | F                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Average Delay                     |                                                                                   |                                                                                   | 3.8                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 48.9%                                                                             |                                                                                   | ICU Level of Service                                                              |                                                                                   |                                                                                    |                                                                                     | A                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

Lanes, Volumes, Timings  
10: Oakspring Rd & Access #2

Stallings Farms TIA  
2027 Build AM

|                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|                                   |  |  |  |  |  |  |
| Lane Group                        | EBL                                                                               | EBR                                                                               | NBL                                                                               | NBT                                                                               | SBT                                                                               | SBR                                                                               |
| Lane Configurations               |  |                                                                                   |                                                                                   |  |  |                                                                                   |
| Traffic Volume (vph)              | 6                                                                                 | 6                                                                                 | 3                                                                                 | 391                                                                               | 565                                                                               | 2                                                                                 |
| Future Volume (vph)               | 6                                                                                 | 6                                                                                 | 3                                                                                 | 391                                                                               | 565                                                                               | 2                                                                                 |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Lane Util. Factor                 | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Frt                               | 0.932                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Flt Protected                     | 0.976                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Satd. Flow (prot)                 | 1694                                                                              | 0                                                                                 | 0                                                                                 | 1776                                                                              | 1863                                                                              | 0                                                                                 |
| Flt Permitted                     | 0.976                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Satd. Flow (perm)                 | 1694                                                                              | 0                                                                                 | 0                                                                                 | 1776                                                                              | 1863                                                                              | 0                                                                                 |
| Link Speed (mph)                  | 25                                                                                |                                                                                   |                                                                                   | 35                                                                                | 35                                                                                |                                                                                   |
| Link Distance (ft)                | 1033                                                                              |                                                                                   |                                                                                   | 489                                                                               | 477                                                                               |                                                                                   |
| Travel Time (s)                   | 28.2                                                                              |                                                                                   |                                                                                   | 9.5                                                                               | 9.3                                                                               |                                                                                   |
| Peak Hour Factor                  | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.88                                                                              | 0.85                                                                              | 0.90                                                                              |
| Heavy Vehicles (%)                | 2%                                                                                | 2%                                                                                | 2%                                                                                | 7%                                                                                | 2%                                                                                | 2%                                                                                |
| Adj. Flow (vph)                   | 7                                                                                 | 7                                                                                 | 3                                                                                 | 444                                                                               | 665                                                                               | 2                                                                                 |
| Shared Lane Traffic (%)           |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)             | 14                                                                                | 0                                                                                 | 0                                                                                 | 447                                                                               | 667                                                                               | 0                                                                                 |
| Sign Control                      | Stop                                                                              |                                                                                   |                                                                                   | Free                                                                              | Free                                                                              |                                                                                   |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Area Type:                        | Other                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Control Type:                     | Unsignalized                                                                      |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization | 39.9%                                                                             |                                                                                   |                                                                                   | ICU Level of Service A                                                            |                                                                                   |                                                                                   |
| Analysis Period (min)             | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |

# HCM Unsignalized Intersection Capacity Analysis

## 10: Oakspring Rd & Access #2

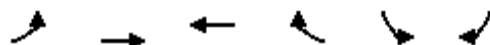
Stallings Farms TIA  
2027 Build AM



| Movement                          | EBL                                                                               | EBR  | NBL   | NBT                                                                               | SBT                                                                               | SBR  |
|-----------------------------------|-----------------------------------------------------------------------------------|------|-------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|
| Lane Configurations               |  |      |       |  |  |      |
| Traffic Volume (veh/h)            | 6                                                                                 | 6    | 3     | 391                                                                               | 565                                                                               | 2    |
| Future Volume (Veh/h)             | 6                                                                                 | 6    | 3     | 391                                                                               | 565                                                                               | 2    |
| Sign Control                      | Stop                                                                              |      |       | Free                                                                              | Free                                                                              |      |
| Grade                             | 0%                                                                                |      |       | 0%                                                                                | 0%                                                                                |      |
| Peak Hour Factor                  | 0.90                                                                              | 0.90 | 0.90  | 0.88                                                                              | 0.85                                                                              | 0.90 |
| Hourly flow rate (vph)            | 7                                                                                 | 7    | 3     | 444                                                                               | 665                                                                               | 2    |
| Pedestrians                       |                                                                                   |      |       |                                                                                   |                                                                                   |      |
| Lane Width (ft)                   |                                                                                   |      |       |                                                                                   |                                                                                   |      |
| Walking Speed (ft/s)              |                                                                                   |      |       |                                                                                   |                                                                                   |      |
| Percent Blockage                  |                                                                                   |      |       |                                                                                   |                                                                                   |      |
| Right turn flare (veh)            |                                                                                   |      |       |                                                                                   |                                                                                   |      |
| Median type                       |                                                                                   |      |       | None                                                                              | None                                                                              |      |
| Median storage veh)               |                                                                                   |      |       |                                                                                   |                                                                                   |      |
| Upstream signal (ft)              |                                                                                   |      |       |                                                                                   |                                                                                   |      |
| pX, platoon unblocked             |                                                                                   |      |       |                                                                                   |                                                                                   |      |
| vC, conflicting volume            | 1116                                                                              | 666  | 667   |                                                                                   |                                                                                   |      |
| vC1, stage 1 conf vol             |                                                                                   |      |       |                                                                                   |                                                                                   |      |
| vC2, stage 2 conf vol             |                                                                                   |      |       |                                                                                   |                                                                                   |      |
| vCu, unblocked vol                | 1116                                                                              | 666  | 667   |                                                                                   |                                                                                   |      |
| tC, single (s)                    | 6.4                                                                               | 6.2  | 4.1   |                                                                                   |                                                                                   |      |
| tC, 2 stage (s)                   |                                                                                   |      |       |                                                                                   |                                                                                   |      |
| tF (s)                            | 3.5                                                                               | 3.3  | 2.2   |                                                                                   |                                                                                   |      |
| p0 queue free %                   | 97                                                                                | 98   | 100   |                                                                                   |                                                                                   |      |
| cM capacity (veh/h)               | 229                                                                               | 459  | 923   |                                                                                   |                                                                                   |      |
| Direction, Lane #                 | EB 1                                                                              | NB 1 | SB 1  |                                                                                   |                                                                                   |      |
| Volume Total                      | 14                                                                                | 447  | 667   |                                                                                   |                                                                                   |      |
| Volume Left                       | 7                                                                                 | 3    | 0     |                                                                                   |                                                                                   |      |
| Volume Right                      | 7                                                                                 | 0    | 2     |                                                                                   |                                                                                   |      |
| cSH                               | 306                                                                               | 923  | 1700  |                                                                                   |                                                                                   |      |
| Volume to Capacity                | 0.05                                                                              | 0.00 | 0.39  |                                                                                   |                                                                                   |      |
| Queue Length 95th (ft)            | 4                                                                                 | 0    | 0     |                                                                                   |                                                                                   |      |
| Control Delay (s)                 | 17.3                                                                              | 0.1  | 0.0   |                                                                                   |                                                                                   |      |
| Lane LOS                          | C                                                                                 | A    |       |                                                                                   |                                                                                   |      |
| Approach Delay (s)                | 17.3                                                                              | 0.1  | 0.0   |                                                                                   |                                                                                   |      |
| Approach LOS                      | C                                                                                 |      |       |                                                                                   |                                                                                   |      |
| Intersection Summary              |                                                                                   |      |       |                                                                                   |                                                                                   |      |
| Average Delay                     |                                                                                   |      | 0.3   |                                                                                   |                                                                                   |      |
| Intersection Capacity Utilization |                                                                                   |      | 39.9% | ICU Level of Service                                                              |                                                                                   | A    |
| Analysis Period (min)             |                                                                                   |      | 15    |                                                                                   |                                                                                   |      |

Lanes, Volumes, Timings  
11: Sweet Birch Dr & Access #3

Stallings Farms TIA  
2027 Build AM



| Lane Group              | EBL  | EBT   | WBT  | WBR  | SBL   | SBR  |
|-------------------------|------|-------|------|------|-------|------|
| Lane Configurations     |      |       |      |      |       |      |
| Traffic Volume (vph)    | 2    | 24    | 71   | 0    | 0     | 7    |
| Future Volume (vph)     | 2    | 24    | 71   | 0    | 0     | 7    |
| Ideal Flow (vphpl)      | 1900 | 1900  | 1900 | 1900 | 1900  | 1900 |
| Lane Util. Factor       | 1.00 | 1.00  | 1.00 | 1.00 | 1.00  | 1.00 |
| Frt                     |      |       |      |      | 0.865 |      |
| Flt Protected           |      | 0.997 |      |      |       |      |
| Satd. Flow (prot)       | 0    | 1857  | 1863 | 0    | 1611  | 0    |
| Flt Permitted           |      | 0.997 |      |      |       |      |
| Satd. Flow (perm)       | 0    | 1857  | 1863 | 0    | 1611  | 0    |
| Link Speed (mph)        |      | 25    | 25   |      | 25    |      |
| Link Distance (ft)      |      | 333   | 341  |      | 1010  |      |
| Travel Time (s)         |      | 9.1   | 9.3  |      | 27.5  |      |
| Peak Hour Factor        | 0.90 | 0.90  | 0.90 | 0.90 | 0.90  | 0.90 |
| Adj. Flow (vph)         | 2    | 27    | 79   | 0    | 0     | 8    |
| Shared Lane Traffic (%) |      |       |      |      |       |      |
| Lane Group Flow (vph)   | 0    | 29    | 79   | 0    | 8     | 0    |
| Sign Control            |      | Free  | Free |      | Stop  |      |

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 13.7% ICU Level of Service A

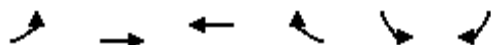
Analysis Period (min) 15

# HCM Unsignalized Intersection Capacity Analysis

## 11: Sweet Birch Dr & Access #3

Stallings Farms TIA

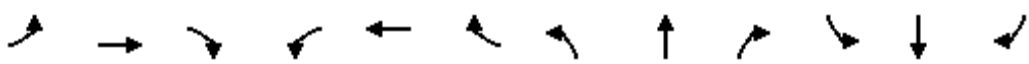
2027 Build AM



| Movement                          | EBL  | EBT                                                                               | WBT                                                                               | WBR                  | SBL                                                                               | SBR  |
|-----------------------------------|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|----------------------|-----------------------------------------------------------------------------------|------|
| Lane Configurations               |      |  |  |                      |  |      |
| Traffic Volume (veh/h)            | 2    | 24                                                                                | 71                                                                                | 0                    | 0                                                                                 | 7    |
| Future Volume (Veh/h)             | 2    | 24                                                                                | 71                                                                                | 0                    | 0                                                                                 | 7    |
| Sign Control                      |      | Free                                                                              | Free                                                                              |                      | Stop                                                                              |      |
| Grade                             |      | 0%                                                                                | 0%                                                                                |                      | 0%                                                                                |      |
| Peak Hour Factor                  | 0.90 | 0.90                                                                              | 0.90                                                                              | 0.90                 | 0.90                                                                              | 0.90 |
| Hourly flow rate (vph)            | 2    | 27                                                                                | 79                                                                                | 0                    | 0                                                                                 | 8    |
| Pedestrians                       |      |                                                                                   |                                                                                   |                      |                                                                                   |      |
| Lane Width (ft)                   |      |                                                                                   |                                                                                   |                      |                                                                                   |      |
| Walking Speed (ft/s)              |      |                                                                                   |                                                                                   |                      |                                                                                   |      |
| Percent Blockage                  |      |                                                                                   |                                                                                   |                      |                                                                                   |      |
| Right turn flare (veh)            |      |                                                                                   |                                                                                   |                      |                                                                                   |      |
| Median type                       |      | None                                                                              | None                                                                              |                      |                                                                                   |      |
| Median storage veh)               |      |                                                                                   |                                                                                   |                      |                                                                                   |      |
| Upstream signal (ft)              |      |                                                                                   |                                                                                   |                      |                                                                                   |      |
| pX, platoon unblocked             |      |                                                                                   |                                                                                   |                      |                                                                                   |      |
| vC, conflicting volume            | 79   |                                                                                   |                                                                                   |                      | 110                                                                               | 79   |
| vC1, stage 1 conf vol             |      |                                                                                   |                                                                                   |                      |                                                                                   |      |
| vC2, stage 2 conf vol             |      |                                                                                   |                                                                                   |                      |                                                                                   |      |
| vCu, unblocked vol                | 79   |                                                                                   |                                                                                   |                      | 110                                                                               | 79   |
| tC, single (s)                    | 4.1  |                                                                                   |                                                                                   |                      | 6.4                                                                               | 6.2  |
| tC, 2 stage (s)                   |      |                                                                                   |                                                                                   |                      |                                                                                   |      |
| tF (s)                            | 2.2  |                                                                                   |                                                                                   |                      | 3.5                                                                               | 3.3  |
| p0 queue free %                   | 100  |                                                                                   |                                                                                   |                      | 100                                                                               | 99   |
| cM capacity (veh/h)               | 1519 |                                                                                   |                                                                                   |                      | 886                                                                               | 981  |
| Direction, Lane #                 | EB 1 | WB 1                                                                              | SB 1                                                                              |                      |                                                                                   |      |
| Volume Total                      | 29   | 79                                                                                | 8                                                                                 |                      |                                                                                   |      |
| Volume Left                       | 2    | 0                                                                                 | 0                                                                                 |                      |                                                                                   |      |
| Volume Right                      | 0    | 0                                                                                 | 8                                                                                 |                      |                                                                                   |      |
| cSH                               | 1519 | 1700                                                                              | 981                                                                               |                      |                                                                                   |      |
| Volume to Capacity                | 0.00 | 0.05                                                                              | 0.01                                                                              |                      |                                                                                   |      |
| Queue Length 95th (ft)            | 0    | 0                                                                                 | 1                                                                                 |                      |                                                                                   |      |
| Control Delay (s)                 | 0.5  | 0.0                                                                               | 8.7                                                                               |                      |                                                                                   |      |
| Lane LOS                          | A    |                                                                                   | A                                                                                 |                      |                                                                                   |      |
| Approach Delay (s)                | 0.5  | 0.0                                                                               | 8.7                                                                               |                      |                                                                                   |      |
| Approach LOS                      |      |                                                                                   | A                                                                                 |                      |                                                                                   |      |
| Intersection Summary              |      |                                                                                   |                                                                                   |                      |                                                                                   |      |
| Average Delay                     |      |                                                                                   | 0.7                                                                               |                      |                                                                                   |      |
| Intersection Capacity Utilization |      |                                                                                   | 13.7%                                                                             | ICU Level of Service |                                                                                   | A    |
| Analysis Period (min)             |      |                                                                                   | 15                                                                                |                      |                                                                                   |      |

Lanes, Volumes, Timings  
1: Stallings Rd & Stevens Mill Rd

Stallings Farms TIA  
2027 Build PM

|                         |  |       |       |       |       |       |       |       |      |       |       |      |
|-------------------------|------------------------------------------------------------------------------------|-------|-------|-------|-------|-------|-------|-------|------|-------|-------|------|
| Lane Group              | EBL                                                                                | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR  | SBL   | SBT   | SBR  |
| Lane Configurations     |                                                                                    |       |       |       |       |       |       |       |      |       |       |      |
| Traffic Volume (vph)    | 17                                                                                 | 217   | 98    | 179   | 72    | 108   | 94    | 203   | 328  | 356   | 208   | 25   |
| Future Volume (vph)     | 17                                                                                 | 217   | 98    | 179   | 72    | 108   | 94    | 203   | 328  | 356   | 208   | 25   |
| Ideal Flow (vphpl)      | 1900                                                                               | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900 | 1900  | 1900  | 1900 |
| Storage Length (ft)     | 0                                                                                  |       | 100   | 0     |       | 300   | 150   |       | 250  | 225   |       | 0    |
| Storage Lanes           | 0                                                                                  |       | 1     | 0     |       | 1     | 1     |       | 0    | 1     |       | 0    |
| Taper Length (ft)       | 25                                                                                 |       |       | 25    |       |       | 100   |       |      | 100   |       |      |
| Lane Util. Factor       | 1.00                                                                               | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00 |
| Ped Bike Factor         |                                                                                    |       |       |       |       | 0.98  |       |       |      |       |       |      |
| Frt                     |                                                                                    |       | 0.850 |       |       | 0.850 |       | 0.907 |      |       | 0.984 |      |
| Flt Protected           |                                                                                    | 0.996 |       |       | 0.966 |       | 0.950 |       |      | 0.950 |       |      |
| Satd. Flow (prot)       | 0                                                                                  | 1839  | 1583  | 0     | 1762  | 1583  | 1671  | 1683  | 0    | 1687  | 1817  | 0    |
| Flt Permitted           |                                                                                    | 0.960 |       |       | 0.526 |       | 0.598 |       |      | 0.335 |       |      |
| Satd. Flow (perm)       | 0                                                                                  | 1772  | 1583  | 0     | 960   | 1550  | 1052  | 1683  | 0    | 595   | 1817  | 0    |
| Right Turn on Red       |                                                                                    |       | No    |       |       | No    |       |       | No   |       |       | No   |
| Satd. Flow (RTOR)       |                                                                                    |       |       |       |       |       |       |       |      |       |       |      |
| Link Speed (mph)        |                                                                                    | 45    |       |       | 45    |       |       | 45    |      |       | 45    |      |
| Link Distance (ft)      |                                                                                    | 1672  |       |       | 940   |       |       | 486   |      |       | 1502  |      |
| Travel Time (s)         |                                                                                    | 25.3  |       |       | 14.2  |       |       | 7.4   |      |       | 22.8  |      |
| Confl. Bikes (#/hr)     |                                                                                    |       |       |       |       | 1     |       |       |      |       |       |      |
| Peak Hour Factor        | 0.90                                                                               | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  | 0.90 |
| Heavy Vehicles (%)      | 2%                                                                                 | 3%    | 2%    | 5%    | 2%    | 2%    | 8%    | 3%    | 2%   | 7%    | 3%    | 2%   |
| Adj. Flow (vph)         | 19                                                                                 | 241   | 109   | 199   | 80    | 120   | 104   | 226   | 364  | 396   | 231   | 28   |
| Shared Lane Traffic (%) |                                                                                    |       |       |       |       |       |       |       |      |       |       |      |
| Lane Group Flow (vph)   | 0                                                                                  | 260   | 109   | 0     | 279   | 120   | 104   | 590   | 0    | 396   | 259   | 0    |
| Turn Type               | Perm                                                                               | NA    | Perm  | Perm  | NA    | Perm  | Perm  | NA    |      | Perm  | NA    |      |
| Protected Phases        |                                                                                    | 4     |       |       | 8     |       |       | 2     |      |       | 6     |      |
| Permitted Phases        | 4                                                                                  |       | 4     | 8     |       | 8     | 2     |       |      | 6     |       |      |
| Detector Phase          | 4                                                                                  | 4     | 4     | 8     | 8     | 8     | 2     | 2     |      | 6     | 6     |      |
| Switch Phase            |                                                                                    |       |       |       |       |       |       |       |      |       |       |      |
| Minimum Initial (s)     | 7.0                                                                                | 7.0   | 7.0   | 7.0   | 7.0   | 7.0   | 12.0  | 12.0  |      | 12.0  | 12.0  |      |
| Minimum Split (s)       | 25.0                                                                               | 25.0  | 25.0  | 25.0  | 25.0  | 25.0  | 25.0  | 25.0  |      | 25.0  | 25.0  |      |
| Total Split (s)         | 25.0                                                                               | 25.0  | 25.0  | 25.0  | 25.0  | 25.0  | 45.0  | 45.0  |      | 45.0  | 45.0  |      |
| Total Split (%)         | 35.7%                                                                              | 35.7% | 35.7% | 35.7% | 35.7% | 35.7% | 64.3% | 64.3% |      | 64.3% | 64.3% |      |
| Maximum Green (s)       | 18.0                                                                               | 18.0  | 18.0  | 18.0  | 18.0  | 18.0  | 38.0  | 38.0  |      | 38.0  | 38.0  |      |
| Yellow Time (s)         | 5.0                                                                                | 5.0   | 5.0   | 5.0   | 5.0   | 5.0   | 5.0   | 5.0   |      | 5.0   | 5.0   |      |
| All-Red Time (s)        | 2.0                                                                                | 2.0   | 2.0   | 2.0   | 2.0   | 2.0   | 2.0   | 2.0   |      | 2.0   | 2.0   |      |
| Lost Time Adjust (s)    |                                                                                    | -2.0  | -2.0  |       | -2.0  | -2.0  | -2.0  | -2.0  |      | -2.0  | -2.0  |      |
| Total Lost Time (s)     |                                                                                    | 5.0   | 5.0   |       | 5.0   | 5.0   | 5.0   | 5.0   |      | 5.0   | 5.0   |      |
| Lead/Lag                |                                                                                    |       |       |       |       |       |       |       |      |       |       |      |
| Lead-Lag Optimize?      |                                                                                    |       |       |       |       |       |       |       |      |       |       |      |
| Vehicle Extension (s)   | 3.0                                                                                | 3.0   | 3.0   | 3.0   | 3.0   | 3.0   | 3.0   | 3.0   |      | 3.0   | 3.0   |      |
| Recall Mode             | None                                                                               | None  | None  | None  | None  | None  | Min   | Min   |      | Min   | Min   |      |
| Walk Time (s)           | 7.0                                                                                | 7.0   | 7.0   | 7.0   | 7.0   | 7.0   | 7.0   | 7.0   |      | 7.0   | 7.0   |      |
| Flash Dont Walk (s)     | 11.0                                                                               | 11.0  | 11.0  | 11.0  | 11.0  | 11.0  | 11.0  | 11.0  |      | 11.0  | 11.0  |      |
| Pedestrian Calls (#/hr) | 0                                                                                  | 0     | 0     | 0     | 0     | 0     | 0     | 0     |      | 0     | 0     |      |
| Act Effect Green (s)    |                                                                                    | 20.0  | 20.0  |       | 20.0  | 20.0  | 40.0  | 40.0  |      | 40.0  | 40.0  |      |
| Actuated g/C Ratio      |                                                                                    | 0.29  | 0.29  |       | 0.29  | 0.29  | 0.57  | 0.57  |      | 0.57  | 0.57  |      |
| v/c Ratio               |                                                                                    | 0.51  | 0.24  |       | 1.02  | 0.27  | 0.17  | 0.61  |      | 1.16  | 0.25  |      |



Lanes, Volumes, Timings  
1: Stallings Rd & Stevens Mill Rd

Stallings Farms TIA  
2027 Build PM

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Control Delay           |                                                                                   | 25.2                                                                              | 21.0                                                                              |                                                                                   | 88.7                                                                              | 21.4                                                                              | 8.1                                                                                | 13.4                                                                                |                                                                                     | 122.0                                                                               | 8.3                                                                                 |                                                                                     |
| Queue Delay             |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                | 0.0                                                                                 |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Delay             |                                                                                   | 25.2                                                                              | 21.0                                                                              |                                                                                   | 88.7                                                                              | 21.4                                                                              | 8.1                                                                                | 13.4                                                                                |                                                                                     | 122.0                                                                               | 8.3                                                                                 |                                                                                     |
| LOS                     |                                                                                   | C                                                                                 | C                                                                                 |                                                                                   | F                                                                                 | C                                                                                 | A                                                                                  | B                                                                                   |                                                                                     | F                                                                                   | A                                                                                   |                                                                                     |
| Approach Delay          |                                                                                   | 24.0                                                                              |                                                                                   |                                                                                   | 68.5                                                                              |                                                                                   |                                                                                    | 12.6                                                                                |                                                                                     |                                                                                     | 77.1                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | C                                                                                 |                                                                                   |                                                                                   | E                                                                                 |                                                                                   |                                                                                    | B                                                                                   |                                                                                     |                                                                                     | E                                                                                   |                                                                                     |
| Queue Length 50th (ft)  |                                                                                   | 93                                                                                | 36                                                                                |                                                                                   | ~123                                                                              | 40                                                                                | 19                                                                                 | 151                                                                                 |                                                                                     | ~207                                                                                | 50                                                                                  |                                                                                     |
| Queue Length 95th (ft)  |                                                                                   | 161                                                                               | 74                                                                                |                                                                                   | #267                                                                              | 80                                                                                | 42                                                                                 | 248                                                                                 |                                                                                     | #365                                                                                | 87                                                                                  |                                                                                     |
| Internal Link Dist (ft) |                                                                                   | 1592                                                                              |                                                                                   |                                                                                   | 860                                                                               |                                                                                   |                                                                                    | 406                                                                                 |                                                                                     |                                                                                     | 1422                                                                                |                                                                                     |
| Turn Bay Length (ft)    |                                                                                   |                                                                                   | 100                                                                               |                                                                                   |                                                                                   | 300                                                                               | 150                                                                                |                                                                                     |                                                                                     | 225                                                                                 |                                                                                     |                                                                                     |
| Base Capacity (vph)     |                                                                                   | 506                                                                               | 452                                                                               |                                                                                   | 274                                                                               | 442                                                                               | 601                                                                                | 961                                                                                 |                                                                                     | 340                                                                                 | 1038                                                                                |                                                                                     |
| Starvation Cap Reductn  |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 | 0                                                                                  | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     |
| Spillback Cap Reductn   |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 | 0                                                                                  | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     |
| Storage Cap Reductn     |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 | 0                                                                                  | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     |
| Reduced v/c Ratio       |                                                                                   | 0.51                                                                              | 0.24                                                                              |                                                                                   | 1.02                                                                              | 0.27                                                                              | 0.17                                                                               | 0.61                                                                                |                                                                                     | 1.16                                                                                | 0.25                                                                                |                                                                                     |

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Natural Cycle: 75

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.16

Intersection Signal Delay: 45.1

Intersection LOS: D

Intersection Capacity Utilization 93.3%

ICU Level of Service F

Analysis Period (min) 15

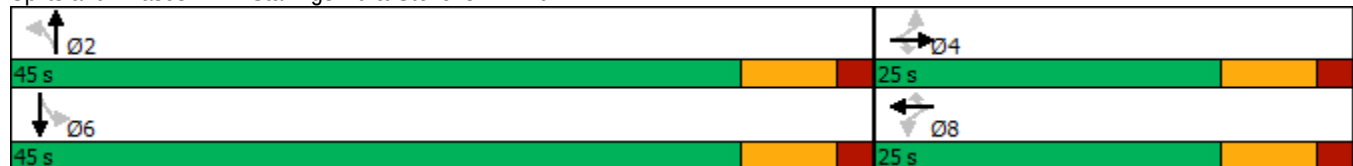
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: Stallings Rd & Stevens Mill Rd



Lanes, Volumes, Timings  
2: Stallings Rd & Sweet Birch Dr

Stallings Farms TIA  
2027 Build PM

|                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|                                   |  |  |  |  |  |  |
| Lane Group                        | WBL                                                                               | WBR                                                                               | NBT                                                                               | NBR                                                                               | SBL                                                                               | SBT                                                                               |
| Lane Configurations               |  |                                                                                   |  |                                                                                   |                                                                                   |  |
| Traffic Volume (vph)              | 25                                                                                | 31                                                                                | 661                                                                               | 42                                                                                | 55                                                                                | 450                                                                               |
| Future Volume (vph)               | 25                                                                                | 31                                                                                | 661                                                                               | 42                                                                                | 55                                                                                | 450                                                                               |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Lane Util. Factor                 | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Frt                               | 0.926                                                                             |                                                                                   | 0.992                                                                             |                                                                                   |                                                                                   |                                                                                   |
| Flt Protected                     | 0.978                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.995                                                                             |
| Satd. Flow (prot)                 | 1687                                                                              | 0                                                                                 | 1831                                                                              | 0                                                                                 | 0                                                                                 | 1822                                                                              |
| Flt Permitted                     | 0.978                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.995                                                                             |
| Satd. Flow (perm)                 | 1687                                                                              | 0                                                                                 | 1831                                                                              | 0                                                                                 | 0                                                                                 | 1822                                                                              |
| Link Speed (mph)                  | 25                                                                                |                                                                                   | 45                                                                                |                                                                                   |                                                                                   | 45                                                                                |
| Link Distance (ft)                | 597                                                                               |                                                                                   | 2030                                                                              |                                                                                   |                                                                                   | 1189                                                                              |
| Travel Time (s)                   | 16.3                                                                              |                                                                                   | 30.8                                                                              |                                                                                   |                                                                                   | 18.0                                                                              |
| Peak Hour Factor                  | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              |
| Heavy Vehicles (%)                | 2%                                                                                | 2%                                                                                | 3%                                                                                | 2%                                                                                | 2%                                                                                | 4%                                                                                |
| Adj. Flow (vph)                   | 28                                                                                | 34                                                                                | 734                                                                               | 47                                                                                | 61                                                                                | 500                                                                               |
| Shared Lane Traffic (%)           |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)             | 62                                                                                | 0                                                                                 | 781                                                                               | 0                                                                                 | 0                                                                                 | 561                                                                               |
| Sign Control                      | Stop                                                                              |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Area Type:                        | Other                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Control Type:                     | Unsignalized                                                                      |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization | 77.4%                                                                             |                                                                                   |                                                                                   | ICU Level of Service D                                                            |                                                                                   |                                                                                   |
| Analysis Period (min)             | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |

# HCM Unsignalized Intersection Capacity Analysis

## 2: Stallings Rd & Sweet Birch Dr

Stallings Farms TIA  
2027 Build PM

|                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|                                   |  |  |  |  |  |  |
| Movement                          | WBL                                                                               | WBR                                                                               | NBT                                                                               | NBR                                                                               | SBL                                                                               | SBT                                                                               |
| Lane Configurations               |  |                                                                                   |  |                                                                                   |                                                                                   |  |
| Traffic Volume (veh/h)            | 25                                                                                | 31                                                                                | 661                                                                               | 42                                                                                | 55                                                                                | 450                                                                               |
| Future Volume (Veh/h)             | 25                                                                                | 31                                                                                | 661                                                                               | 42                                                                                | 55                                                                                | 450                                                                               |
| Sign Control                      | Stop                                                                              |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              |
| Grade                             | 0%                                                                                |                                                                                   | 0%                                                                                |                                                                                   |                                                                                   | 0%                                                                                |
| Peak Hour Factor                  | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              |
| Hourly flow rate (vph)            | 28                                                                                | 34                                                                                | 734                                                                               | 47                                                                                | 61                                                                                | 500                                                                               |
| Pedestrians                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Width (ft)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Walking Speed (ft/s)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Percent Blockage                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Right turn flare (veh)            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Median type                       |                                                                                   |                                                                                   | None                                                                              |                                                                                   |                                                                                   | None                                                                              |
| Median storage veh)               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Upstream signal (ft)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| pX, platoon unblocked             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC, conflicting volume            | 1380                                                                              | 758                                                                               |                                                                                   |                                                                                   | 781                                                                               |                                                                                   |
| vC1, stage 1 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC2, stage 2 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vCu, unblocked vol                | 1380                                                                              | 758                                                                               |                                                                                   |                                                                                   | 781                                                                               |                                                                                   |
| tC, single (s)                    | 6.4                                                                               | 6.2                                                                               |                                                                                   |                                                                                   | 4.1                                                                               |                                                                                   |
| tC, 2 stage (s)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| tF (s)                            | 3.5                                                                               | 3.3                                                                               |                                                                                   |                                                                                   | 2.2                                                                               |                                                                                   |
| p0 queue free %                   | 81                                                                                | 92                                                                                |                                                                                   |                                                                                   | 93                                                                                |                                                                                   |
| cM capacity (veh/h)               | 148                                                                               | 407                                                                               |                                                                                   |                                                                                   | 837                                                                               |                                                                                   |
| Direction, Lane #                 | WB 1                                                                              | NB 1                                                                              | SB 1                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Volume Total                      | 62                                                                                | 781                                                                               | 561                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Volume Left                       | 28                                                                                | 0                                                                                 | 61                                                                                |                                                                                   |                                                                                   |                                                                                   |
| Volume Right                      | 34                                                                                | 47                                                                                | 0                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| cSH                               | 227                                                                               | 1700                                                                              | 837                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Volume to Capacity                | 0.27                                                                              | 0.46                                                                              | 0.07                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Queue Length 95th (ft)            | 27                                                                                | 0                                                                                 | 6                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| Control Delay (s)                 | 26.7                                                                              | 0.0                                                                               | 1.9                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Lane LOS                          | D                                                                                 |                                                                                   | A                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| Approach Delay (s)                | 26.7                                                                              | 0.0                                                                               | 1.9                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Approach LOS                      | D                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Average Delay                     |                                                                                   | 2.0                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization |                                                                                   | 77.4%                                                                             | ICU Level of Service                                                              | D                                                                                 |                                                                                   |                                                                                   |
| Analysis Period (min)             |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |

Lanes, Volumes, Timings  
3: Nouvelle Dr & Sweet Birch Dr

Stallings Farms TIA  
2027 Build PM

|                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|                                   |  |  |  |  |  |  |
| Lane Group                        | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | NBL                                                                               | NBR                                                                               |
| Lane Configurations               |  |                                                                                   |                                                                                   |  |  |                                                                                   |
| Traffic Volume (vph)              | 89                                                                                | 8                                                                                 | 4                                                                                 | 52                                                                                | 4                                                                                 | 4                                                                                 |
| Future Volume (vph)               | 89                                                                                | 8                                                                                 | 4                                                                                 | 52                                                                                | 4                                                                                 | 4                                                                                 |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Lane Util. Factor                 | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Frt                               | 0.989                                                                             |                                                                                   |                                                                                   |                                                                                   | 0.932                                                                             |                                                                                   |
| Flt Protected                     |                                                                                   |                                                                                   |                                                                                   | 0.997                                                                             | 0.976                                                                             |                                                                                   |
| Satd. Flow (prot)                 | 1842                                                                              | 0                                                                                 | 0                                                                                 | 1857                                                                              | 1694                                                                              | 0                                                                                 |
| Flt Permitted                     |                                                                                   |                                                                                   |                                                                                   | 0.997                                                                             | 0.976                                                                             |                                                                                   |
| Satd. Flow (perm)                 | 1842                                                                              | 0                                                                                 | 0                                                                                 | 1857                                                                              | 1694                                                                              | 0                                                                                 |
| Link Speed (mph)                  | 25                                                                                |                                                                                   |                                                                                   | 25                                                                                | 25                                                                                |                                                                                   |
| Link Distance (ft)                | 597                                                                               |                                                                                   |                                                                                   | 398                                                                               | 1037                                                                              |                                                                                   |
| Travel Time (s)                   | 16.3                                                                              |                                                                                   |                                                                                   | 10.9                                                                              | 28.3                                                                              |                                                                                   |
| Peak Hour Factor                  | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              |
| Adj. Flow (vph)                   | 99                                                                                | 9                                                                                 | 4                                                                                 | 58                                                                                | 4                                                                                 | 4                                                                                 |
| Shared Lane Traffic (%)           |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)             | 108                                                                               | 0                                                                                 | 0                                                                                 | 62                                                                                | 8                                                                                 | 0                                                                                 |
| Sign Control                      | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              | Stop                                                                              |                                                                                   |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Area Type:                        | Other                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Control Type:                     | Unsignalized                                                                      |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization | 16.0%                                                                             |                                                                                   |                                                                                   | ICU Level of Service A                                                            |                                                                                   |                                                                                   |
| Analysis Period (min)             | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |

# HCM Unsignalized Intersection Capacity Analysis

## 3: Nouvelle Dr & Sweet Birch Dr

Stallings Farms TIA  
2027 Build PM

|                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|                                   |  |  |  |  |  |  |
| Movement                          | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | NBL                                                                               | NBR                                                                               |
| Lane Configurations               |  |                                                                                   |                                                                                   |  |  |                                                                                   |
| Traffic Volume (veh/h)            | 89                                                                                | 8                                                                                 | 4                                                                                 | 52                                                                                | 4                                                                                 | 4                                                                                 |
| Future Volume (Veh/h)             | 89                                                                                | 8                                                                                 | 4                                                                                 | 52                                                                                | 4                                                                                 | 4                                                                                 |
| Sign Control                      | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              | Stop                                                                              |                                                                                   |
| Grade                             | 0%                                                                                |                                                                                   |                                                                                   | 0%                                                                                | 0%                                                                                |                                                                                   |
| Peak Hour Factor                  | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              |
| Hourly flow rate (vph)            | 99                                                                                | 9                                                                                 | 4                                                                                 | 58                                                                                | 4                                                                                 | 4                                                                                 |
| Pedestrians                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Width (ft)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Walking Speed (ft/s)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Percent Blockage                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Right turn flare (veh)            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Median type                       | None                                                                              |                                                                                   |                                                                                   | None                                                                              |                                                                                   |                                                                                   |
| Median storage veh                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Upstream signal (ft)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| pX, platoon unblocked             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC, conflicting volume            |                                                                                   |                                                                                   | 108                                                                               |                                                                                   | 170                                                                               | 104                                                                               |
| vC1, stage 1 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC2, stage 2 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vCu, unblocked vol                |                                                                                   |                                                                                   | 108                                                                               |                                                                                   | 170                                                                               | 104                                                                               |
| tC, single (s)                    |                                                                                   |                                                                                   | 4.1                                                                               |                                                                                   | 6.4                                                                               | 6.2                                                                               |
| tC, 2 stage (s)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| tF (s)                            |                                                                                   |                                                                                   | 2.2                                                                               |                                                                                   | 3.5                                                                               | 3.3                                                                               |
| p0 queue free %                   |                                                                                   |                                                                                   | 100                                                                               |                                                                                   | 100                                                                               | 100                                                                               |
| cM capacity (veh/h)               |                                                                                   |                                                                                   | 1483                                                                              |                                                                                   | 819                                                                               | 951                                                                               |
| Direction, Lane #                 | EB 1                                                                              | WB 1                                                                              | NB 1                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Volume Total                      | 108                                                                               | 62                                                                                | 8                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| Volume Left                       | 0                                                                                 | 4                                                                                 | 4                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| Volume Right                      | 9                                                                                 | 0                                                                                 | 4                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| cSH                               | 1700                                                                              | 1483                                                                              | 880                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Volume to Capacity                | 0.06                                                                              | 0.00                                                                              | 0.01                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Queue Length 95th (ft)            | 0                                                                                 | 0                                                                                 | 1                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| Control Delay (s)                 | 0.0                                                                               | 0.5                                                                               | 9.1                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Lane LOS                          |                                                                                   | A                                                                                 | A                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| Approach Delay (s)                | 0.0                                                                               | 0.5                                                                               | 9.1                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Approach LOS                      |                                                                                   |                                                                                   | A                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Average Delay                     |                                                                                   |                                                                                   | 0.6                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 16.0%                                                                             | ICU Level of Service                                                              |                                                                                   | A                                                                                 |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |

Lanes, Volumes, Timings  
4: Stallings Rd & Monroe Expressway WB Ramp

Stallings Farms TIA

2027 Build PM

|                         |  |      |      |                                                                                   |                                                                                   |      |                                                                                    |                                                                                     |      |      |                                                                                     |      |
|-------------------------|------------------------------------------------------------------------------------|------|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------|------|-------------------------------------------------------------------------------------|------|
| Lane Group              | EBL                                                                                | EBT  | EBR  | WBL                                                                               | WBT                                                                               | WBR  | NBL                                                                                | NBT                                                                                 | NBR  | SBL  | SBT                                                                                 | SBR  |
| Lane Configurations     |                                                                                    |      |      |  |  |      |  |  |      |      |  |      |
| Traffic Volume (vph)    | 0                                                                                  | 0    | 0    | 236                                                                               | 126                                                                               | 213  | 665                                                                                | 568                                                                                 | 0    | 0    | 403                                                                                 | 225  |
| Future Volume (vph)     | 0                                                                                  | 0    | 0    | 236                                                                               | 126                                                                               | 213  | 665                                                                                | 568                                                                                 | 0    | 0    | 403                                                                                 | 225  |
| Ideal Flow (vphpl)      | 1900                                                                               | 1900 | 1900 | 1900                                                                              | 1900                                                                              | 1900 | 1900                                                                               | 1900                                                                                | 1900 | 1900 | 1900                                                                                | 1900 |
| Storage Length (ft)     | 0                                                                                  |      | 0    | 325                                                                               |                                                                                   | 50   | 0                                                                                  |                                                                                     | 0    | 200  |                                                                                     | 200  |
| Storage Lanes           | 0                                                                                  |      | 0    | 1                                                                                 |                                                                                   | 0    | 2                                                                                  |                                                                                     | 0    | 0    |                                                                                     | 2    |
| Taper Length (ft)       | 25                                                                                 |      |      | 100                                                                               |                                                                                   |      | 25                                                                                 |                                                                                     |      | 100  |                                                                                     |      |
| Lane Util. Factor       | 1.00                                                                               | 1.00 | 1.00 | 1.00                                                                              | 0.95                                                                              | 0.95 | 0.97                                                                               | 0.95                                                                                | 1.00 | 1.00 | 0.86                                                                                | 0.86 |
| Frt                     |                                                                                    |      |      |                                                                                   | 0.906                                                                             |      |                                                                                    |                                                                                     |      |      | 0.946                                                                               |      |
| Flt Protected           |                                                                                    |      |      | 0.950                                                                             |                                                                                   |      | 0.950                                                                              |                                                                                     |      |      |                                                                                     |      |
| Satd. Flow (prot)       | 0                                                                                  | 0    | 0    | 1719                                                                              | 3207                                                                              | 0    | 3433                                                                               | 3539                                                                                | 0    | 0    | 6024                                                                                | 0    |
| Flt Permitted           |                                                                                    |      |      | 0.950                                                                             |                                                                                   |      | 0.950                                                                              |                                                                                     |      |      |                                                                                     |      |
| Satd. Flow (perm)       | 0                                                                                  | 0    | 0    | 1719                                                                              | 3207                                                                              | 0    | 3433                                                                               | 3539                                                                                | 0    | 0    | 6024                                                                                | 0    |
| Right Turn on Red       |                                                                                    |      | No   |                                                                                   |                                                                                   | No   |                                                                                    |                                                                                     | No   |      |                                                                                     | No   |
| Satd. Flow (RTOR)       |                                                                                    |      |      |                                                                                   |                                                                                   |      |                                                                                    |                                                                                     |      |      |                                                                                     |      |
| Link Speed (mph)        |                                                                                    | 30   |      |                                                                                   | 45                                                                                |      |                                                                                    | 35                                                                                  |      |      | 45                                                                                  |      |
| Link Distance (ft)      |                                                                                    | 1788 |      |                                                                                   | 2381                                                                              |      |                                                                                    | 198                                                                                 |      |      | 998                                                                                 |      |
| Travel Time (s)         |                                                                                    | 40.6 |      |                                                                                   | 36.1                                                                              |      |                                                                                    | 3.9                                                                                 |      |      | 15.1                                                                                |      |
| Peak Hour Factor        | 0.90                                                                               | 0.90 | 0.90 | 0.90                                                                              | 0.90                                                                              | 0.90 | 0.90                                                                               | 0.90                                                                                | 0.90 | 0.90 | 0.90                                                                                | 0.90 |
| Heavy Vehicles (%)      | 2%                                                                                 | 2%   | 2%   | 5%                                                                                | 2%                                                                                | 2%   | 2%                                                                                 | 2%                                                                                  | 2%   | 2%   | 3%                                                                                  | 2%   |
| Adj. Flow (vph)         | 0                                                                                  | 0    | 0    | 262                                                                               | 140                                                                               | 237  | 739                                                                                | 631                                                                                 | 0    | 0    | 448                                                                                 | 250  |
| Shared Lane Traffic (%) |                                                                                    |      |      |                                                                                   |                                                                                   |      |                                                                                    |                                                                                     |      |      |                                                                                     |      |
| Lane Group Flow (vph)   | 0                                                                                  | 0    | 0    | 262                                                                               | 377                                                                               | 0    | 739                                                                                | 631                                                                                 | 0    | 0    | 698                                                                                 | 0    |
| Turn Type               |                                                                                    |      |      | Split                                                                             | NA                                                                                |      | Prot                                                                               | NA                                                                                  |      |      | NA                                                                                  |      |
| Protected Phases        |                                                                                    |      |      | 4                                                                                 | 4                                                                                 |      | 3 5                                                                                | 2 3                                                                                 |      |      | 6                                                                                   |      |
| Permitted Phases        |                                                                                    |      |      |                                                                                   |                                                                                   |      |                                                                                    |                                                                                     |      |      |                                                                                     |      |
| Detector Phase          |                                                                                    |      |      | 4                                                                                 | 4                                                                                 |      | 3 5                                                                                | 2 3                                                                                 |      |      | 6                                                                                   |      |
| Switch Phase            |                                                                                    |      |      |                                                                                   |                                                                                   |      |                                                                                    |                                                                                     |      |      |                                                                                     |      |
| Minimum Initial (s)     |                                                                                    |      |      | 7.0                                                                               | 7.0                                                                               |      |                                                                                    |                                                                                     |      |      | 12.0                                                                                |      |
| Minimum Split (s)       |                                                                                    |      |      | 13.7                                                                              | 13.7                                                                              |      |                                                                                    |                                                                                     |      |      | 28.4                                                                                |      |
| Total Split (s)         |                                                                                    |      |      | 31.0                                                                              | 31.0                                                                              |      |                                                                                    |                                                                                     |      |      | 31.0                                                                                |      |
| Total Split (%)         |                                                                                    |      |      | 25.8%                                                                             | 25.8%                                                                             |      |                                                                                    |                                                                                     |      |      | 25.8%                                                                               |      |
| Maximum Green (s)       |                                                                                    |      |      | 24.3                                                                              | 24.3                                                                              |      |                                                                                    |                                                                                     |      |      | 25.6                                                                                |      |
| Yellow Time (s)         |                                                                                    |      |      | 4.3                                                                               | 4.3                                                                               |      |                                                                                    |                                                                                     |      |      | 4.4                                                                                 |      |
| All-Red Time (s)        |                                                                                    |      |      | 2.4                                                                               | 2.4                                                                               |      |                                                                                    |                                                                                     |      |      | 1.0                                                                                 |      |
| Lost Time Adjust (s)    |                                                                                    |      |      | -1.7                                                                              | -1.7                                                                              |      |                                                                                    |                                                                                     |      |      | -0.4                                                                                |      |
| Total Lost Time (s)     |                                                                                    |      |      | 5.0                                                                               | 5.0                                                                               |      |                                                                                    |                                                                                     |      |      | 5.0                                                                                 |      |
| Lead/Lag                |                                                                                    |      |      | Lag                                                                               | Lag                                                                               |      |                                                                                    |                                                                                     |      |      | Lag                                                                                 |      |
| Lead-Lag Optimize?      |                                                                                    |      |      | Yes                                                                               | Yes                                                                               |      |                                                                                    |                                                                                     |      |      | Yes                                                                                 |      |
| Vehicle Extension (s)   |                                                                                    |      |      | 3.0                                                                               | 3.0                                                                               |      |                                                                                    |                                                                                     |      |      | 3.0                                                                                 |      |
| Recall Mode             |                                                                                    |      |      | None                                                                              | None                                                                              |      |                                                                                    |                                                                                     |      |      | C-Min                                                                               |      |
| Walk Time (s)           |                                                                                    |      |      |                                                                                   |                                                                                   |      |                                                                                    |                                                                                     |      |      | 7.0                                                                                 |      |
| Flash Dont Walk (s)     |                                                                                    |      |      |                                                                                   |                                                                                   |      |                                                                                    |                                                                                     |      |      | 16.0                                                                                |      |
| Pedestrian Calls (#/hr) |                                                                                    |      |      |                                                                                   |                                                                                   |      |                                                                                    |                                                                                     |      |      | 0                                                                                   |      |
| Act Effct Green (s)     |                                                                                    |      |      | 24.2                                                                              | 24.2                                                                              |      | 45.2                                                                               | 66.7                                                                                |      |      | 27.8                                                                                |      |
| Actuated g/C Ratio      |                                                                                    |      |      | 0.20                                                                              | 0.20                                                                              |      | 0.38                                                                               | 0.56                                                                                |      |      | 0.23                                                                                |      |
| v/c Ratio               |                                                                                    |      |      | 0.76                                                                              | 0.58                                                                              |      | 0.57                                                                               | 0.32                                                                                |      |      | 0.50                                                                                |      |
| Control Delay           |                                                                                    |      |      | 59.7                                                                              | 47.0                                                                              |      | 22.4                                                                               | 1.5                                                                                 |      |      | 42.1                                                                                |      |
| Queue Delay             |                                                                                    |      |      | 0.0                                                                               | 0.0                                                                               |      | 24.1                                                                               | 0.4                                                                                 |      |      | 0.0                                                                                 |      |

Lanes, Volumes, Timings  
4: Stallings Rd & Monroe Expressway WB Ramp

Stallings Farms TIA  
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| Lane Group              | Ø1   | Ø2    | Ø3   | Ø5   |
|-------------------------|------|-------|------|------|
| Lane Configurations     |      |       |      |      |
| Traffic Volume (vph)    |      |       |      |      |
| Future Volume (vph)     |      |       |      |      |
| Ideal Flow (vphpl)      |      |       |      |      |
| Storage Length (ft)     |      |       |      |      |
| Storage Lanes           |      |       |      |      |
| Taper Length (ft)       |      |       |      |      |
| Lane Util. Factor       |      |       |      |      |
| Frt                     |      |       |      |      |
| Flt Protected           |      |       |      |      |
| Satd. Flow (prot)       |      |       |      |      |
| Flt Permitted           |      |       |      |      |
| Satd. Flow (perm)       |      |       |      |      |
| Right Turn on Red       |      |       |      |      |
| Satd. Flow (RTOR)       |      |       |      |      |
| Link Speed (mph)        |      |       |      |      |
| Link Distance (ft)      |      |       |      |      |
| Travel Time (s)         |      |       |      |      |
| Peak Hour Factor        |      |       |      |      |
| Heavy Vehicles (%)      |      |       |      |      |
| Adj. Flow (vph)         |      |       |      |      |
| Shared Lane Traffic (%) |      |       |      |      |
| Lane Group Flow (vph)   |      |       |      |      |
| Turn Type               |      |       |      |      |
| Protected Phases        | 1    | 2     | 3    | 5    |
| Permitted Phases        |      |       |      |      |
| Detector Phase          |      |       |      |      |
| Switch Phase            |      |       |      |      |
| Minimum Initial (s)     | 7.0  | 10.0  | 7.0  | 7.0  |
| Minimum Split (s)       | 13.3 | 24.2  | 13.4 | 13.2 |
| Total Split (s)         | 14.0 | 31.0  | 44.0 | 14.0 |
| Total Split (%)         | 12%  | 26%   | 37%  | 12%  |
| Maximum Green (s)       | 7.7  | 25.8  | 37.6 | 7.8  |
| Yellow Time (s)         | 3.0  | 3.9   | 3.8  | 3.0  |
| All-Red Time (s)        | 3.3  | 1.3   | 2.6  | 3.2  |
| Lost Time Adjust (s)    |      |       |      |      |
| Total Lost Time (s)     |      |       |      |      |
| Lead/Lag                | Lag  | Lead  | Lead | Lead |
| Lead-Lag Optimize?      | Yes  | Yes   | Yes  | Yes  |
| Vehicle Extension (s)   | 3.0  | 3.0   | 3.0  | 3.0  |
| Recall Mode             | None | C-Min | None | None |
| Walk Time (s)           |      | 7.0   |      |      |
| Flash Dont Walk (s)     |      | 12.0  |      |      |
| Pedestrian Calls (#/hr) |      | 1     |      |      |
| Act Effct Green (s)     |      |       |      |      |
| Actuated g/C Ratio      |      |       |      |      |
| v/c Ratio               |      |       |      |      |
| Control Delay           |      |       |      |      |
| Queue Delay             |      |       |      |      |



Lanes, Volumes, Timings  
4: Stallings Rd & Monroe Expressway WB Ramp

Stallings Farms TIA  
2027 Build PM

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Total Delay             |                                                                                   |                                                                                   |                                                                                   | 59.7                                                                              | 47.0                                                                              |                                                                                   | 46.5                                                                               | 1.9                                                                                 |                                                                                     |                                                                                     | 42.1                                                                                |                                                                                     |
| LOS                     |                                                                                   |                                                                                   |                                                                                   | E                                                                                 | D                                                                                 |                                                                                   | D                                                                                  | A                                                                                   |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |
| Approach Delay          |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 52.2                                                                              |                                                                                   |                                                                                    | 26.0                                                                                |                                                                                     |                                                                                     | 42.1                                                                                |                                                                                     |
| Approach LOS            |                                                                                   |                                                                                   |                                                                                   |                                                                                   | D                                                                                 |                                                                                   |                                                                                    | C                                                                                   |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |
| Queue Length 50th (ft)  |                                                                                   |                                                                                   |                                                                                   | 189                                                                               | 137                                                                               |                                                                                   | 205                                                                                | 6                                                                                   |                                                                                     |                                                                                     | 140                                                                                 |                                                                                     |
| Queue Length 95th (ft)  |                                                                                   |                                                                                   |                                                                                   | 285                                                                               | 188                                                                               |                                                                                   | 263                                                                                | 34                                                                                  |                                                                                     |                                                                                     | 173                                                                                 |                                                                                     |
| Internal Link Dist (ft) |                                                                                   | 1708                                                                              |                                                                                   |                                                                                   | 2301                                                                              |                                                                                   |                                                                                    | 118                                                                                 |                                                                                     |                                                                                     | 918                                                                                 |                                                                                     |
| Turn Bay Length (ft)    |                                                                                   |                                                                                   |                                                                                   | 325                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Base Capacity (vph)     |                                                                                   |                                                                                   |                                                                                   | 372                                                                               | 694                                                                               |                                                                                   | 1325                                                                               | 1998                                                                                |                                                                                     |                                                                                     | 1404                                                                                |                                                                                     |
| Starvation Cap Reductn  |                                                                                   |                                                                                   |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 603                                                                                | 844                                                                                 |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Spillback Cap Reductn   |                                                                                   |                                                                                   |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                  | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Storage Cap Reductn     |                                                                                   |                                                                                   |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                  | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Reduced v/c Ratio       |                                                                                   |                                                                                   |                                                                                   | 0.70                                                                              | 0.54                                                                              |                                                                                   | 1.02                                                                               | 0.55                                                                                |                                                                                     |                                                                                     | 0.50                                                                                |                                                                                     |

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.76

Intersection Signal Delay: 36.3

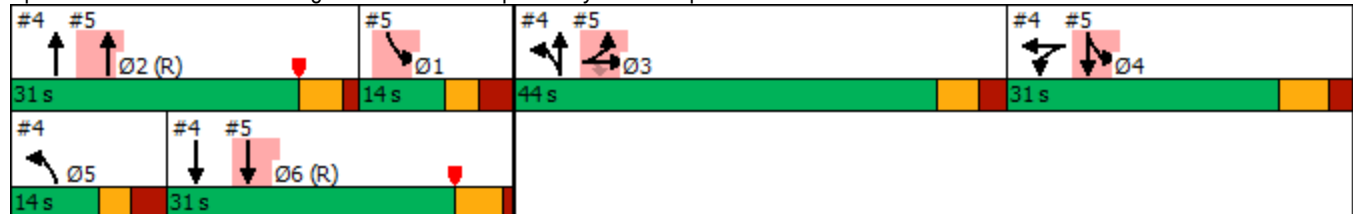
Intersection LOS: D

Intersection Capacity Utilization 69.3%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 4: Stallings Rd & Monroe Expressway WB Ramp



| Lane Group              | Ø1 | Ø2 | Ø3 | Ø5 |
|-------------------------|----|----|----|----|
| Total Delay             |    |    |    |    |
| LOS                     |    |    |    |    |
| Approach Delay          |    |    |    |    |
| Approach LOS            |    |    |    |    |
| Queue Length 50th (ft)  |    |    |    |    |
| Queue Length 95th (ft)  |    |    |    |    |
| Internal Link Dist (ft) |    |    |    |    |
| Turn Bay Length (ft)    |    |    |    |    |
| Base Capacity (vph)     |    |    |    |    |
| Starvation Cap Reductn  |    |    |    |    |
| Spillback Cap Reductn   |    |    |    |    |
| Storage Cap Reductn     |    |    |    |    |
| Reduced v/c Ratio       |    |    |    |    |
| Intersection Summary    |    |    |    |    |

Lanes, Volumes, Timings  
5: Stallings Rd & Monroe Expressway EB Ramp

Stallings Farms TIA

2027 Build PM

|                         |  |                                                                                   |                                                                                   |      |      |      |      |                                                                                     |      |                                                                                     |                                                                                     |      |
|-------------------------|------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|------|------|------|-------------------------------------------------------------------------------------|------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------|
| Lane Group              | EBL                                                                                | EBT                                                                               | EBR                                                                               | WBL  | WBT  | WBR  | NBL  | NBT                                                                                 | NBR  | SBL                                                                                 | SBT                                                                                 | SBR  |
| Lane Configurations     |                                                                                    |  |  |      |      |      |      |  |      |  |  |      |
| Traffic Volume (vph)    | 376                                                                                | 164                                                                               | 446                                                                               | 0    | 0    | 0    | 0    | 856                                                                                 | 138  | 179                                                                                 | 461                                                                                 | 0    |
| Future Volume (vph)     | 376                                                                                | 164                                                                               | 446                                                                               | 0    | 0    | 0    | 0    | 856                                                                                 | 138  | 179                                                                                 | 461                                                                                 | 0    |
| Ideal Flow (vphpl)      | 1900                                                                               | 1900                                                                              | 1900                                                                              | 1900 | 1900 | 1900 | 1900 | 1900                                                                                | 1900 | 1900                                                                                | 1900                                                                                | 1900 |
| Storage Length (ft)     | 175                                                                                |                                                                                   | 325                                                                               | 0    |      | 0    | 425  |                                                                                     | 275  | 0                                                                                   |                                                                                     | 0    |
| Storage Lanes           | 0                                                                                  |                                                                                   | 1                                                                                 | 0    |      | 0    | 2    |                                                                                     | 0    | 2                                                                                   |                                                                                     | 0    |
| Taper Length (ft)       | 100                                                                                |                                                                                   |                                                                                   | 25   |      |      | 225  |                                                                                     |      | 25                                                                                  |                                                                                     |      |
| Lane Util. Factor       | 0.95                                                                               | 0.91                                                                              | 0.91                                                                              | 1.00 | 1.00 | 1.00 | 1.00 | 0.86                                                                                | 0.86 | 0.97                                                                                | 0.95                                                                                | 1.00 |
| Ped Bike Factor         |                                                                                    | 1.00                                                                              |                                                                                   |      |      |      |      | 1.00                                                                                |      | 1.00                                                                                |                                                                                     |      |
| Frt                     |                                                                                    | 0.969                                                                             | 0.850                                                                             |      |      |      |      | 0.979                                                                               |      |                                                                                     |                                                                                     |      |
| Flt Protected           |                                                                                    | 0.973                                                                             |                                                                                   |      |      |      |      |                                                                                     |      | 0.950                                                                               |                                                                                     |      |
| Satd. Flow (prot)       | 0                                                                                  | 3184                                                                              | 1413                                                                              | 0    | 0    | 0    | 0    | 6261                                                                                | 0    | 3433                                                                                | 3471                                                                                | 0    |
| Flt Permitted           |                                                                                    | 0.973                                                                             |                                                                                   |      |      |      |      |                                                                                     |      | 0.950                                                                               |                                                                                     |      |
| Satd. Flow (perm)       | 0                                                                                  | 3182                                                                              | 1413                                                                              | 0    | 0    | 0    | 0    | 6261                                                                                | 0    | 3431                                                                                | 3471                                                                                | 0    |
| Right Turn on Red       |                                                                                    |                                                                                   | No                                                                                |      |      | No   |      |                                                                                     | No   |                                                                                     |                                                                                     | No   |
| Satd. Flow (RTOR)       |                                                                                    |                                                                                   |                                                                                   |      |      |      |      |                                                                                     |      |                                                                                     |                                                                                     |      |
| Link Speed (mph)        |                                                                                    | 35                                                                                |                                                                                   |      | 30   |      |      | 35                                                                                  |      |                                                                                     | 35                                                                                  |      |
| Link Distance (ft)      |                                                                                    | 1776                                                                              |                                                                                   |      | 891  |      |      | 1501                                                                                |      |                                                                                     | 198                                                                                 |      |
| Travel Time (s)         |                                                                                    | 34.6                                                                              |                                                                                   |      | 20.3 |      |      | 29.2                                                                                |      |                                                                                     | 3.9                                                                                 |      |
| Confl. Peds. (#/hr)     | 1                                                                                  |                                                                                   |                                                                                   |      |      | 1    |      |                                                                                     | 1    | 1                                                                                   |                                                                                     |      |
| Peak Hour Factor        | 0.90                                                                               | 0.90                                                                              | 0.90                                                                              | 0.90 | 0.90 | 0.90 | 0.90 | 0.90                                                                                | 0.90 | 0.90                                                                                | 0.90                                                                                | 0.90 |
| Heavy Vehicles (%)      | 2%                                                                                 | 2%                                                                                | 4%                                                                                | 2%   | 2%   | 2%   | 2%   | 2%                                                                                  | 2%   | 2%                                                                                  | 4%                                                                                  | 2%   |
| Adj. Flow (vph)         | 418                                                                                | 182                                                                               | 496                                                                               | 0    | 0    | 0    | 0    | 951                                                                                 | 153  | 199                                                                                 | 512                                                                                 | 0    |
| Shared Lane Traffic (%) |                                                                                    |                                                                                   | 31%                                                                               |      |      |      |      |                                                                                     |      |                                                                                     |                                                                                     |      |
| Lane Group Flow (vph)   | 0                                                                                  | 754                                                                               | 342                                                                               | 0    | 0    | 0    | 0    | 1104                                                                                | 0    | 199                                                                                 | 512                                                                                 | 0    |
| Turn Type               | Split                                                                              | NA                                                                                | Perm                                                                              |      |      |      |      | NA                                                                                  |      | Prot                                                                                | NA                                                                                  |      |
| Protected Phases        | 3                                                                                  | 3                                                                                 |                                                                                   |      |      |      |      | 2                                                                                   |      | 1 4                                                                                 | 4 6                                                                                 |      |
| Permitted Phases        |                                                                                    |                                                                                   | 3                                                                                 |      |      |      |      |                                                                                     |      |                                                                                     |                                                                                     |      |
| Detector Phase          | 3                                                                                  | 3                                                                                 | 3                                                                                 |      |      |      |      | 2                                                                                   |      | 1 4                                                                                 | 4 6                                                                                 |      |
| Switch Phase            |                                                                                    |                                                                                   |                                                                                   |      |      |      |      |                                                                                     |      |                                                                                     |                                                                                     |      |
| Minimum Initial (s)     | 7.0                                                                                | 7.0                                                                               | 7.0                                                                               |      |      |      |      | 10.0                                                                                |      |                                                                                     |                                                                                     |      |
| Minimum Split (s)       | 13.4                                                                               | 13.4                                                                              | 13.4                                                                              |      |      |      |      | 24.2                                                                                |      |                                                                                     |                                                                                     |      |
| Total Split (s)         | 44.0                                                                               | 44.0                                                                              | 44.0                                                                              |      |      |      |      | 31.0                                                                                |      |                                                                                     |                                                                                     |      |
| Total Split (%)         | 36.7%                                                                              | 36.7%                                                                             | 36.7%                                                                             |      |      |      |      | 25.8%                                                                               |      |                                                                                     |                                                                                     |      |
| Maximum Green (s)       | 37.6                                                                               | 37.6                                                                              | 37.6                                                                              |      |      |      |      | 25.8                                                                                |      |                                                                                     |                                                                                     |      |
| Yellow Time (s)         | 3.8                                                                                | 3.8                                                                               | 3.8                                                                               |      |      |      |      | 3.9                                                                                 |      |                                                                                     |                                                                                     |      |
| All-Red Time (s)        | 2.6                                                                                | 2.6                                                                               | 2.6                                                                               |      |      |      |      | 1.3                                                                                 |      |                                                                                     |                                                                                     |      |
| Lost Time Adjust (s)    |                                                                                    | -1.4                                                                              | -1.4                                                                              |      |      |      |      | -0.2                                                                                |      |                                                                                     |                                                                                     |      |
| Total Lost Time (s)     |                                                                                    | 5.0                                                                               | 5.0                                                                               |      |      |      |      | 5.0                                                                                 |      |                                                                                     |                                                                                     |      |
| Lead/Lag                | Lead                                                                               | Lead                                                                              | Lead                                                                              |      |      |      |      | Lead                                                                                |      |                                                                                     |                                                                                     |      |
| Lead-Lag Optimize?      | Yes                                                                                | Yes                                                                               | Yes                                                                               |      |      |      |      | Yes                                                                                 |      |                                                                                     |                                                                                     |      |
| Vehicle Extension (s)   | 3.0                                                                                | 3.0                                                                               | 3.0                                                                               |      |      |      |      | 3.0                                                                                 |      |                                                                                     |                                                                                     |      |
| Recall Mode             | None                                                                               | None                                                                              | None                                                                              |      |      |      |      | C-Min                                                                               |      |                                                                                     |                                                                                     |      |
| Walk Time (s)           |                                                                                    |                                                                                   |                                                                                   |      |      |      |      | 7.0                                                                                 |      |                                                                                     |                                                                                     |      |
| Flash Dont Walk (s)     |                                                                                    |                                                                                   |                                                                                   |      |      |      |      | 12.0                                                                                |      |                                                                                     |                                                                                     |      |
| Pedestrian Calls (#/hr) |                                                                                    |                                                                                   |                                                                                   |      |      |      |      | 1                                                                                   |      |                                                                                     |                                                                                     |      |
| Act Effct Green (s)     |                                                                                    | 38.1                                                                              | 38.1                                                                              |      |      |      |      | 29.0                                                                                |      | 30.3                                                                                | 48.6                                                                                |      |
| Actuated g/C Ratio      |                                                                                    | 0.32                                                                              | 0.32                                                                              |      |      |      |      | 0.24                                                                                |      | 0.25                                                                                | 0.40                                                                                |      |
| v/c Ratio               |                                                                                    | 0.75                                                                              | 0.76                                                                              |      |      |      |      | 0.73                                                                                |      | 0.23                                                                                | 0.36                                                                                |      |

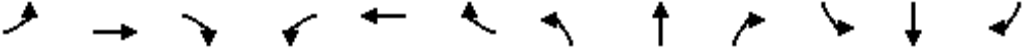
Lanes, Volumes, Timings  
5: Stallings Rd & Monroe Expressway EB Ramp

Stallings Farms TIA  
2027 Build PM

| Lane Group              | Ø1   | Ø4   | Ø5   | Ø6    |
|-------------------------|------|------|------|-------|
| Lane Configurations     |      |      |      |       |
| Traffic Volume (vph)    |      |      |      |       |
| Future Volume (vph)     |      |      |      |       |
| Ideal Flow (vphpl)      |      |      |      |       |
| Storage Length (ft)     |      |      |      |       |
| Storage Lanes           |      |      |      |       |
| Taper Length (ft)       |      |      |      |       |
| Lane Util. Factor       |      |      |      |       |
| Ped Bike Factor         |      |      |      |       |
| Frt                     |      |      |      |       |
| Flt Protected           |      |      |      |       |
| Satd. Flow (prot)       |      |      |      |       |
| Flt Permitted           |      |      |      |       |
| Satd. Flow (perm)       |      |      |      |       |
| Right Turn on Red       |      |      |      |       |
| Satd. Flow (RTOR)       |      |      |      |       |
| Link Speed (mph)        |      |      |      |       |
| Link Distance (ft)      |      |      |      |       |
| Travel Time (s)         |      |      |      |       |
| Confl. Peds. (#/hr)     |      |      |      |       |
| Peak Hour Factor        |      |      |      |       |
| Heavy Vehicles (%)      |      |      |      |       |
| Adj. Flow (vph)         |      |      |      |       |
| Shared Lane Traffic (%) |      |      |      |       |
| Lane Group Flow (vph)   |      |      |      |       |
| Turn Type               |      |      |      |       |
| Protected Phases        | 1    | 4    | 5    | 6     |
| Permitted Phases        |      |      |      |       |
| Detector Phase          |      |      |      |       |
| Switch Phase            |      |      |      |       |
| Minimum Initial (s)     | 7.0  | 7.0  | 7.0  | 12.0  |
| Minimum Split (s)       | 13.3 | 13.7 | 13.2 | 28.4  |
| Total Split (s)         | 14.0 | 31.0 | 14.0 | 31.0  |
| Total Split (%)         | 12%  | 26%  | 12%  | 26%   |
| Maximum Green (s)       | 7.7  | 24.3 | 7.8  | 25.6  |
| Yellow Time (s)         | 3.0  | 4.3  | 3.0  | 4.4   |
| All-Red Time (s)        | 3.3  | 2.4  | 3.2  | 1.0   |
| Lost Time Adjust (s)    |      |      |      |       |
| Total Lost Time (s)     |      |      |      |       |
| Lead/Lag                | Lag  | Lag  | Lead | Lag   |
| Lead-Lag Optimize?      | Yes  | Yes  | Yes  | Yes   |
| Vehicle Extension (s)   | 3.0  | 3.0  | 3.0  | 3.0   |
| Recall Mode             | None | None | None | C-Min |
| Walk Time (s)           |      |      |      | 7.0   |
| Flash Dont Walk (s)     |      |      |      | 16.0  |
| Pedestrian Calls (#/hr) |      |      |      | 0     |
| Act Effct Green (s)     |      |      |      |       |
| Actuated g/C Ratio      |      |      |      |       |
| v/c Ratio               |      |      |      |       |

Lanes, Volumes, Timings  
5: Stallings Rd & Monroe Expressway EB Ramp

Stallings Farms TIA  
2027 Build PM

|                         |  |      |      |     |     |     |     |      |     |      |      |     |
|-------------------------|------------------------------------------------------------------------------------|------|------|-----|-----|-----|-----|------|-----|------|------|-----|
| Lane Group              | EBL                                                                                | EBT  | EBR  | WBL | WBT | WBR | NBL | NBT  | NBR | SBL  | SBT  | SBR |
| Control Delay           |                                                                                    | 41.8 | 49.2 |     |     |     |     | 46.1 |     | 8.6  | 2.7  |     |
| Queue Delay             |                                                                                    | 0.4  | 0.0  |     |     |     |     | 4.3  |     | 0.5  | 0.3  |     |
| Total Delay             |                                                                                    | 42.3 | 49.2 |     |     |     |     | 50.4 |     | 9.1  | 2.9  |     |
| LOS                     |                                                                                    | D    | D    |     |     |     |     | D    |     | A    | A    |     |
| Approach Delay          |                                                                                    | 44.4 |      |     |     |     |     | 50.4 |     |      | 4.7  |     |
| Approach LOS            |                                                                                    | D    |      |     |     |     |     | D    |     |      | A    |     |
| Queue Length 50th (ft)  |                                                                                    | 282  | 258  |     |     |     |     | 238  |     | 42   | 6    |     |
| Queue Length 95th (ft)  |                                                                                    | 359  | 387  |     |     |     |     | 281  |     | m63  | 22   |     |
| Internal Link Dist (ft) |                                                                                    | 1696 |      |     | 811 |     |     | 1421 |     |      | 118  |     |
| Turn Bay Length (ft)    |                                                                                    |      | 325  |     |     |     |     |      |     |      |      |     |
| Base Capacity (vph)     |                                                                                    | 1039 | 461  |     |     |     |     | 1511 |     | 926  | 1462 |     |
| Starvation Cap Reductn  |                                                                                    | 0    | 0    |     |     |     |     | 0    |     | 400  | 389  |     |
| Spillback Cap Reductn   |                                                                                    | 59   | 0    |     |     |     |     | 326  |     | 0    | 0    |     |
| Storage Cap Reductn     |                                                                                    | 0    | 0    |     |     |     |     | 0    |     | 0    | 0    |     |
| Reduced v/c Ratio       |                                                                                    | 0.77 | 0.74 |     |     |     |     | 0.93 |     | 0.38 | 0.48 |     |

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.76

Intersection Signal Delay: 37.0

Intersection LOS: D

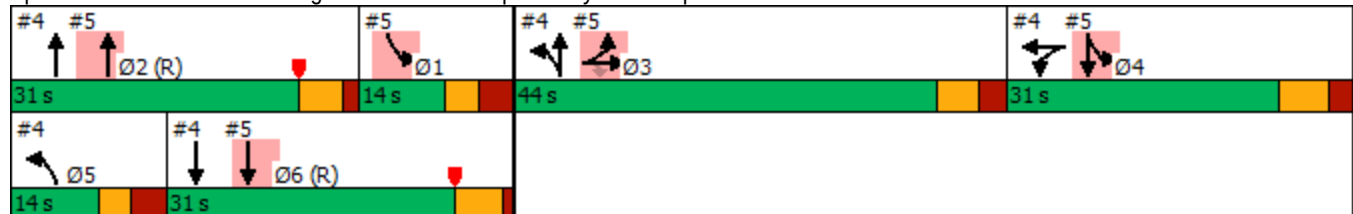
Intersection Capacity Utilization 69.3%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Stallings Rd & Monroe Expressway EB Ramp



| Lane Group              | Ø1 | Ø4 | Ø5 | Ø6 |
|-------------------------|----|----|----|----|
| Control Delay           |    |    |    |    |
| Queue Delay             |    |    |    |    |
| Total Delay             |    |    |    |    |
| LOS                     |    |    |    |    |
| Approach Delay          |    |    |    |    |
| Approach LOS            |    |    |    |    |
| Queue Length 50th (ft)  |    |    |    |    |
| Queue Length 95th (ft)  |    |    |    |    |
| Internal Link Dist (ft) |    |    |    |    |
| Turn Bay Length (ft)    |    |    |    |    |
| Base Capacity (vph)     |    |    |    |    |
| Starvation Cap Reductn  |    |    |    |    |
| Spillback Cap Reductn   |    |    |    |    |
| Storage Cap Reductn     |    |    |    |    |
| Reduced v/c Ratio       |    |    |    |    |
| Intersection Summary    |    |    |    |    |

Lanes, Volumes, Timings  
6: Stallings Rd & Matthews-Indian Trail Rd

Stallings Farms TIA  
2027 Build PM

|                         |  |  |  |  |  |  |   |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations     |  |  |                                                                                   |  |  |                                                                                   |  |  |                                                                                     |  |  |                                                                                     |
| Traffic Volume (vph)    | 31                                                                                | 73                                                                                | 132                                                                               | 112                                                                               | 38                                                                                | 186                                                                               | 37                                                                                  | 664                                                                                 | 91                                                                                  | 137                                                                                 | 652                                                                                 | 43                                                                                  |
| Future Volume (vph)     | 31                                                                                | 73                                                                                | 132                                                                               | 112                                                                               | 38                                                                                | 186                                                                               | 37                                                                                  | 664                                                                                 | 91                                                                                  | 137                                                                                 | 652                                                                                 | 43                                                                                  |
| Ideal Flow (vphpl)      | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)     | 140                                                                               |                                                                                   | 0                                                                                 | 140                                                                               |                                                                                   | 0                                                                                 | 120                                                                                 |                                                                                     | 150                                                                                 | 110                                                                                 |                                                                                     | 0                                                                                   |
| Storage Lanes           | 1                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                   |                                                                                     | 0                                                                                   | 1                                                                                   |                                                                                     | 0                                                                                   |
| Taper Length (ft)       | 100                                                                               |                                                                                   |                                                                                   | 75                                                                                |                                                                                   |                                                                                   | 100                                                                                 |                                                                                     |                                                                                     | 100                                                                                 |                                                                                     |                                                                                     |
| Lane Util. Factor       | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Ped Bike Factor         |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     | 1.00                                                                                |                                                                                     | 1.00                                                                                |                                                                                     |                                                                                     |
| Frt                     |                                                                                   | 0.903                                                                             |                                                                                   |                                                                                   | 0.875                                                                             |                                                                                   |                                                                                     | 0.982                                                                               |                                                                                     |                                                                                     | 0.991                                                                               |                                                                                     |
| Flt Protected           | 0.950                                                                             |                                                                                   |                                                                                   | 0.950                                                                             |                                                                                   |                                                                                   | 0.950                                                                               |                                                                                     |                                                                                     | 0.950                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (prot)       | 1770                                                                              | 1682                                                                              | 0                                                                                 | 1770                                                                              | 1630                                                                              | 0                                                                                 | 1770                                                                                | 1808                                                                                | 0                                                                                   | 1770                                                                                | 1812                                                                                | 0                                                                                   |
| Flt Permitted           | 0.551                                                                             |                                                                                   |                                                                                   | 0.593                                                                             |                                                                                   |                                                                                   | 0.222                                                                               |                                                                                     |                                                                                     | 0.175                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (perm)       | 1026                                                                              | 1682                                                                              | 0                                                                                 | 1105                                                                              | 1630                                                                              | 0                                                                                 | 414                                                                                 | 1808                                                                                | 0                                                                                   | 326                                                                                 | 1812                                                                                | 0                                                                                   |
| Right Turn on Red       |                                                                                   |                                                                                   | No                                                                                |                                                                                   |                                                                                   | No                                                                                |                                                                                     |                                                                                     | No                                                                                  |                                                                                     |                                                                                     | No                                                                                  |
| Satd. Flow (RTOR)       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Link Speed (mph)        |                                                                                   | 45                                                                                |                                                                                   |                                                                                   | 35                                                                                |                                                                                   |                                                                                     | 35                                                                                  |                                                                                     |                                                                                     | 35                                                                                  |                                                                                     |
| Link Distance (ft)      |                                                                                   | 2002                                                                              |                                                                                   |                                                                                   | 586                                                                               |                                                                                   |                                                                                     | 1248                                                                                |                                                                                     |                                                                                     | 1501                                                                                |                                                                                     |
| Travel Time (s)         |                                                                                   | 30.3                                                                              |                                                                                   |                                                                                   | 11.4                                                                              |                                                                                   |                                                                                     | 24.3                                                                                |                                                                                     |                                                                                     | 29.2                                                                                |                                                                                     |
| Confl. Peds. (#/hr)     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 1                                                                                   | 1                                                                                   |                                                                                     |                                                                                     |
| Peak Hour Factor        | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                |
| Heavy Vehicles (%)      | 2%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                  | 2%                                                                                  | 10%                                                                                 | 2%                                                                                  | 4%                                                                                  | 3%                                                                                  |
| Adj. Flow (vph)         | 34                                                                                | 81                                                                                | 147                                                                               | 124                                                                               | 42                                                                                | 207                                                                               | 41                                                                                  | 738                                                                                 | 101                                                                                 | 152                                                                                 | 724                                                                                 | 48                                                                                  |
| Shared Lane Traffic (%) |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)   | 34                                                                                | 228                                                                               | 0                                                                                 | 124                                                                               | 249                                                                               | 0                                                                                 | 41                                                                                  | 839                                                                                 | 0                                                                                   | 152                                                                                 | 772                                                                                 | 0                                                                                   |
| Turn Type               | Perm                                                                              | NA                                                                                |                                                                                   | Perm                                                                              | NA                                                                                |                                                                                   | Perm                                                                                | NA                                                                                  |                                                                                     | Perm                                                                                | NA                                                                                  |                                                                                     |
| Protected Phases        |                                                                                   | 4                                                                                 |                                                                                   |                                                                                   | 8                                                                                 |                                                                                   |                                                                                     | 2                                                                                   |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     |
| Permitted Phases        | 4                                                                                 |                                                                                   |                                                                                   | 8                                                                                 |                                                                                   |                                                                                   | 2                                                                                   |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     |                                                                                     |
| Detector Phase          | 4                                                                                 | 4                                                                                 |                                                                                   | 8                                                                                 | 8                                                                                 |                                                                                   | 2                                                                                   | 2                                                                                   |                                                                                     | 6                                                                                   | 6                                                                                   |                                                                                     |
| Switch Phase            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)     | 7.0                                                                               | 7.0                                                                               |                                                                                   | 7.0                                                                               | 7.0                                                                               |                                                                                   | 10.0                                                                                | 10.0                                                                                |                                                                                     | 10.0                                                                                | 10.0                                                                                |                                                                                     |
| Minimum Split (s)       | 12.3                                                                              | 12.3                                                                              |                                                                                   | 12.7                                                                              | 12.7                                                                              |                                                                                   | 34.4                                                                                | 34.4                                                                                |                                                                                     | 15.3                                                                                | 15.3                                                                                |                                                                                     |
| Total Split (s)         | 18.0                                                                              | 18.0                                                                              |                                                                                   | 18.0                                                                              | 18.0                                                                              |                                                                                   | 42.0                                                                                | 42.0                                                                                |                                                                                     | 42.0                                                                                | 42.0                                                                                |                                                                                     |
| Total Split (%)         | 30.0%                                                                             | 30.0%                                                                             |                                                                                   | 30.0%                                                                             | 30.0%                                                                             |                                                                                   | 70.0%                                                                               | 70.0%                                                                               |                                                                                     | 70.0%                                                                               | 70.0%                                                                               |                                                                                     |
| Maximum Green (s)       | 12.7                                                                              | 12.7                                                                              |                                                                                   | 12.3                                                                              | 12.3                                                                              |                                                                                   | 36.6                                                                                | 36.6                                                                                |                                                                                     | 36.7                                                                                | 36.7                                                                                |                                                                                     |
| Yellow Time (s)         | 3.6                                                                               | 3.6                                                                               |                                                                                   | 4.0                                                                               | 4.0                                                                               |                                                                                   | 3.8                                                                                 | 3.8                                                                                 |                                                                                     | 3.6                                                                                 | 3.6                                                                                 |                                                                                     |
| All-Red Time (s)        | 1.7                                                                               | 1.7                                                                               |                                                                                   | 1.7                                                                               | 1.7                                                                               |                                                                                   | 1.6                                                                                 | 1.6                                                                                 |                                                                                     | 1.7                                                                                 | 1.7                                                                                 |                                                                                     |
| Lost Time Adjust (s)    | -0.3                                                                              | -0.3                                                                              |                                                                                   | -0.7                                                                              | -0.7                                                                              |                                                                                   | -0.4                                                                                | -0.4                                                                                |                                                                                     | -0.3                                                                                | -0.3                                                                                |                                                                                     |
| Total Lost Time (s)     | 5.0                                                                               | 5.0                                                                               |                                                                                   | 5.0                                                                               | 5.0                                                                               |                                                                                   | 5.0                                                                                 | 5.0                                                                                 |                                                                                     | 5.0                                                                                 | 5.0                                                                                 |                                                                                     |
| Lead/Lag                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lead-Lag Optimize?      |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Vehicle Extension (s)   | 2.0                                                                               | 2.0                                                                               |                                                                                   | 2.0                                                                               | 2.0                                                                               |                                                                                   | 3.0                                                                                 | 3.0                                                                                 |                                                                                     | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |
| Recall Mode             | None                                                                              | None                                                                              |                                                                                   | None                                                                              | None                                                                              |                                                                                   | Min                                                                                 | Min                                                                                 |                                                                                     | Min                                                                                 | Min                                                                                 |                                                                                     |
| Walk Time (s)           |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 7.0                                                                                 | 7.0                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Flash Dont Walk (s)     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 22.0                                                                                | 22.0                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Pedestrian Calls (#/hr) |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1                                                                                   | 1                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Act Effct Green (s)     | 11.5                                                                              | 11.5                                                                              |                                                                                   | 11.5                                                                              | 11.5                                                                              |                                                                                   | 27.5                                                                                | 27.5                                                                                |                                                                                     | 27.5                                                                                | 27.5                                                                                |                                                                                     |
| Actuated g/C Ratio      | 0.23                                                                              | 0.23                                                                              |                                                                                   | 0.23                                                                              | 0.23                                                                              |                                                                                   | 0.56                                                                                | 0.56                                                                                |                                                                                     | 0.56                                                                                | 0.56                                                                                |                                                                                     |
| v/c Ratio               | 0.14                                                                              | 0.58                                                                              |                                                                                   | 0.48                                                                              | 0.66                                                                              |                                                                                   | 0.18                                                                                | 0.84                                                                                |                                                                                     | 0.84                                                                                | 0.77                                                                                |                                                                                     |

Lanes, Volumes, Timings  
6: Stallings Rd & Matthews-Indian Trail Rd

Stallings Farms TIA  
2027 Build PM

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Control Delay           | 20.1                                                                              | 26.5                                                                              |                                                                                   | 26.7                                                                              | 30.2                                                                              |                                                                                   | 7.3                                                                                | 17.8                                                                                |                                                                                     | 50.8                                                                                | 14.3                                                                                |                                                                                     |
| Queue Delay             | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                                | 0.0                                                                                 |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Delay             | 20.1                                                                              | 26.5                                                                              |                                                                                   | 26.7                                                                              | 30.2                                                                              |                                                                                   | 7.3                                                                                | 17.8                                                                                |                                                                                     | 50.8                                                                                | 14.3                                                                                |                                                                                     |
| LOS                     | C                                                                                 | C                                                                                 |                                                                                   | C                                                                                 | C                                                                                 |                                                                                   | A                                                                                  | B                                                                                   |                                                                                     | D                                                                                   | B                                                                                   |                                                                                     |
| Approach Delay          |                                                                                   | 25.7                                                                              |                                                                                   |                                                                                   | 29.0                                                                              |                                                                                   |                                                                                    | 17.3                                                                                |                                                                                     |                                                                                     | 20.3                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | C                                                                                 |                                                                                   |                                                                                   | C                                                                                 |                                                                                   |                                                                                    | B                                                                                   |                                                                                     |                                                                                     | C                                                                                   |                                                                                     |
| Queue Length 50th (ft)  | 8                                                                                 | 60                                                                                |                                                                                   | 32                                                                                | 67                                                                                |                                                                                   | 5                                                                                  | 186                                                                                 |                                                                                     | 34                                                                                  | 159                                                                                 |                                                                                     |
| Queue Length 95th (ft)  | 31                                                                                | #152                                                                              |                                                                                   | 87                                                                                | #178                                                                              |                                                                                   | 18                                                                                 | 322                                                                                 |                                                                                     | #138                                                                                | 272                                                                                 |                                                                                     |
| Internal Link Dist (ft) |                                                                                   | 1922                                                                              |                                                                                   |                                                                                   | 506                                                                               |                                                                                   |                                                                                    | 1168                                                                                |                                                                                     |                                                                                     | 1421                                                                                |                                                                                     |
| Turn Bay Length (ft)    | 140                                                                               |                                                                                   |                                                                                   | 140                                                                               |                                                                                   |                                                                                   | 120                                                                                |                                                                                     |                                                                                     | 110                                                                                 |                                                                                     |                                                                                     |
| Base Capacity (vph)     | 284                                                                               | 465                                                                               |                                                                                   | 306                                                                               | 451                                                                               |                                                                                   | 314                                                                                | 1374                                                                                |                                                                                     | 248                                                                                 | 1378                                                                                |                                                                                     |
| Starvation Cap Reductn  | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                  | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     |
| Spillback Cap Reductn   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                  | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     |
| Storage Cap Reductn     | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                  | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     |
| Reduced v/c Ratio       | 0.12                                                                              | 0.49                                                                              |                                                                                   | 0.41                                                                              | 0.55                                                                              |                                                                                   | 0.13                                                                               | 0.61                                                                                |                                                                                     | 0.61                                                                                | 0.56                                                                                |                                                                                     |

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 49.5

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.84

Intersection Signal Delay: 21.2

Intersection LOS: C

Intersection Capacity Utilization 84.8%

ICU Level of Service E

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 6: Stallings Rd & Matthews-Indian Trail Rd





Lanes, Volumes, Timings  
7: Mt. Harmony Church Rd & Stevens Mill Rd

Stallings Farms TIA  
2027 Build PM

|                         |  |       |      |       |       |      |      |       |      |       |       |      |
|-------------------------|------------------------------------------------------------------------------------|-------|------|-------|-------|------|------|-------|------|-------|-------|------|
| Lane Group              | EBL                                                                                | EBT   | EBR  | WBL   | WBT   | WBR  | NBL  | NBT   | NBR  | SBL   | SBT   | SBR  |
| Lane Configurations     |                                                                                    | ↕     |      | ↗     | ↖     |      |      | ↕     |      | ↗     | ↖     |      |
| Traffic Volume (vph)    | 18                                                                                 | 10    | 4    | 9     | 7     | 84   | 4    | 122   | 76   | 181   | 48    | 4    |
| Future Volume (vph)     | 18                                                                                 | 10    | 4    | 9     | 7     | 84   | 4    | 122   | 76   | 181   | 48    | 4    |
| Ideal Flow (vphpl)      | 1900                                                                               | 1900  | 1900 | 1900  | 1900  | 1900 | 1900 | 1900  | 1900 | 1900  | 1900  | 1900 |
| Storage Length (ft)     | 0                                                                                  |       | 0    | 125   |       | 0    | 0    |       | 0    | 150   |       | 0    |
| Storage Lanes           | 0                                                                                  |       | 0    | 1     |       | 0    | 0    |       | 0    | 1     |       | 0    |
| Taper Length (ft)       | 25                                                                                 |       |      | 125   |       |      | 25   |       |      | 100   |       |      |
| Lane Util. Factor       | 1.00                                                                               | 1.00  | 1.00 | 1.00  | 1.00  | 1.00 | 1.00 | 1.00  | 1.00 | 1.00  | 1.00  | 1.00 |
| Frt                     |                                                                                    | 0.985 |      |       | 0.862 |      |      | 0.949 |      |       | 0.989 |      |
| Flt Protected           |                                                                                    | 0.972 |      | 0.950 |       |      |      | 0.999 |      | 0.950 |       |      |
| Satd. Flow (prot)       | 0                                                                                  | 1597  | 0    | 1770  | 1591  | 0    | 0    | 1725  | 0    | 1770  | 1826  | 0    |
| Flt Permitted           |                                                                                    | 0.972 |      | 0.950 |       |      |      | 0.999 |      | 0.950 |       |      |
| Satd. Flow (perm)       | 0                                                                                  | 1597  | 0    | 1770  | 1591  | 0    | 0    | 1725  | 0    | 1770  | 1826  | 0    |
| Link Speed (mph)        |                                                                                    | 35    |      |       | 35    |      |      | 35    |      |       | 35    |      |
| Link Distance (ft)      |                                                                                    | 831   |      |       | 703   |      |      | 907   |      |       | 461   |      |
| Travel Time (s)         |                                                                                    | 16.2  |      |       | 13.7  |      |      | 17.7  |      |       | 9.0   |      |
| Peak Hour Factor        | 0.90                                                                               | 0.90  | 0.90 | 0.90  | 0.90  | 0.90 | 0.90 | 0.90  | 0.90 | 0.90  | 0.90  | 0.90 |
| Heavy Vehicles (%)      | 2%                                                                                 | 40%   | 2%   | 2%    | 2%    | 3%   | 33%  | 2%    | 7%   | 2%    | 3%    | 2%   |
| Adj. Flow (vph)         | 20                                                                                 | 11    | 4    | 10    | 8     | 93   | 4    | 136   | 84   | 201   | 53    | 4    |
| Shared Lane Traffic (%) |                                                                                    |       |      |       |       |      |      |       |      |       |       |      |
| Lane Group Flow (vph)   | 0                                                                                  | 35    | 0    | 10    | 101   | 0    | 0    | 224   | 0    | 201   | 57    | 0    |
| Sign Control            |                                                                                    | Stop  |      |       | Stop  |      |      | Free  |      |       | Free  |      |

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 39.7% ICU Level of Service A

Analysis Period (min) 15

# HCM Unsignalized Intersection Capacity Analysis

## 7: Mt. Harmony Church Rd & Stevens Mill Rd

Stallings Farms TIA  
2027 Build PM

|                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                                   |  |  |  |  |  |  |  |  |  |  |  |  |
| Movement                          | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |                                                                                   |  |                                                                                   |  |  |                                                                                   |                                                                                    |  |                                                                                     |  |  |                                                                                     |
| Traffic Volume (veh/h)            | 18                                                                                | 10                                                                                | 4                                                                                 | 9                                                                                 | 7                                                                                 | 84                                                                                | 4                                                                                  | 122                                                                                 | 76                                                                                  | 181                                                                                 | 48                                                                                  | 4                                                                                   |
| Future Volume (Veh/h)             | 18                                                                                | 10                                                                                | 4                                                                                 | 9                                                                                 | 7                                                                                 | 84                                                                                | 4                                                                                  | 122                                                                                 | 76                                                                                  | 181                                                                                 | 48                                                                                  | 4                                                                                   |
| Sign Control                      |                                                                                   | Stop                                                                              |                                                                                   |                                                                                   | Stop                                                                              |                                                                                   |                                                                                    | Free                                                                                |                                                                                     |                                                                                     | Free                                                                                |                                                                                     |
| Grade                             |                                                                                   | 0%                                                                                |                                                                                   |                                                                                   | 0%                                                                                |                                                                                   |                                                                                    | 0%                                                                                  |                                                                                     |                                                                                     | 0%                                                                                  |                                                                                     |
| Peak Hour Factor                  | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                               | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                |
| Hourly flow rate (vph)            | 20                                                                                | 11                                                                                | 4                                                                                 | 10                                                                                | 8                                                                                 | 93                                                                                | 4                                                                                  | 136                                                                                 | 84                                                                                  | 201                                                                                 | 53                                                                                  | 4                                                                                   |
| Pedestrians                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Width (ft)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Walking Speed (ft/s)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Percent Blockage                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Right turn flare (veh)            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Median type                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    | None                                                                                |                                                                                     |                                                                                     | None                                                                                |                                                                                     |
| Median storage (veh)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Upstream signal (ft)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| pX, platoon unblocked             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| vC, conflicting volume            | 740                                                                               | 685                                                                               | 55                                                                                | 650                                                                               | 645                                                                               | 178                                                                               | 57                                                                                 |                                                                                     |                                                                                     | 220                                                                                 |                                                                                     |                                                                                     |
| vC1, stage 1 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| vC2, stage 2 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| vCu, unblocked vol                | 740                                                                               | 685                                                                               | 55                                                                                | 650                                                                               | 645                                                                               | 178                                                                               | 57                                                                                 |                                                                                     |                                                                                     | 220                                                                                 |                                                                                     |                                                                                     |
| tC, single (s)                    | 7.1                                                                               | 6.9                                                                               | 6.2                                                                               | 7.1                                                                               | 6.5                                                                               | 6.2                                                                               | 4.4                                                                                |                                                                                     |                                                                                     | 4.1                                                                                 |                                                                                     |                                                                                     |
| tC, 2 stage (s)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| tF (s)                            | 3.5                                                                               | 4.4                                                                               | 3.3                                                                               | 3.5                                                                               | 4.0                                                                               | 3.3                                                                               | 2.5                                                                                |                                                                                     |                                                                                     | 2.2                                                                                 |                                                                                     |                                                                                     |
| p0 queue free %                   | 92                                                                                | 96                                                                                | 100                                                                               | 97                                                                                | 98                                                                                | 89                                                                                | 100                                                                                |                                                                                     |                                                                                     | 85                                                                                  |                                                                                     |                                                                                     |
| cM capacity (veh/h)               | 258                                                                               | 277                                                                               | 1012                                                                              | 326                                                                               | 332                                                                               | 862                                                                               | 1371                                                                               |                                                                                     |                                                                                     | 1349                                                                                |                                                                                     |                                                                                     |
| Direction, Lane #                 | EB 1                                                                              | WB 1                                                                              | WB 2                                                                              | NB 1                                                                              | SB 1                                                                              | SB 2                                                                              |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Total                      | 35                                                                                | 10                                                                                | 101                                                                               | 224                                                                               | 201                                                                               | 57                                                                                |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Left                       | 20                                                                                | 10                                                                                | 0                                                                                 | 4                                                                                 | 201                                                                               | 0                                                                                 |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Right                      | 4                                                                                 | 0                                                                                 | 93                                                                                | 84                                                                                | 0                                                                                 | 4                                                                                 |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| cSH                               | 289                                                                               | 326                                                                               | 765                                                                               | 1371                                                                              | 1349                                                                              | 1700                                                                              |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume to Capacity                | 0.12                                                                              | 0.03                                                                              | 0.13                                                                              | 0.00                                                                              | 0.15                                                                              | 0.03                                                                              |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Queue Length 95th (ft)            | 10                                                                                | 2                                                                                 | 11                                                                                | 0                                                                                 | 13                                                                                | 0                                                                                 |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Control Delay (s)                 | 19.2                                                                              | 16.4                                                                              | 10.4                                                                              | 0.2                                                                               | 8.1                                                                               | 0.0                                                                               |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane LOS                          | C                                                                                 | C                                                                                 | B                                                                                 | A                                                                                 | A                                                                                 |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Approach Delay (s)                | 19.2                                                                              | 11.0                                                                              |                                                                                   | 0.2                                                                               | 6.3                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Approach LOS                      | C                                                                                 | B                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Average Delay                     |                                                                                   |                                                                                   | 5.7                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 39.7%                                                                             |                                                                                   | ICU Level of Service                                                              |                                                                                   | A                                                                                  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

Lanes, Volumes, Timings  
8: Oakspring Rd & Stevens Mill Rd

Stallings Farms TIA  
2027 Build PM

|                                   |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group                        | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | NBL                                                                               | NBR                                                                               |
| Lane Configurations               |  |                                                                                   |                                                                                   |  |  |  |
| Traffic Volume (vph)              | 567                                                                               | 410                                                                               | 103                                                                               | 295                                                                               | 177                                                                               | 119                                                                               |
| Future Volume (vph)               | 567                                                                               | 410                                                                               | 103                                                                               | 295                                                                               | 177                                                                               | 119                                                                               |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Storage Length (ft)               |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 100                                                                               |
| Storage Lanes                     |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 1                                                                                 | 1                                                                                 |
| Taper Length (ft)                 |                                                                                   |                                                                                   | 25                                                                                |                                                                                   | 25                                                                                |                                                                                   |
| Lane Util. Factor                 | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Frt                               | 0.943                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.850                                                                             |
| Flt Protected                     |                                                                                   |                                                                                   |                                                                                   | 0.987                                                                             | 0.950                                                                             |                                                                                   |
| Satd. Flow (prot)                 | 1728                                                                              | 0                                                                                 | 0                                                                                 | 1794                                                                              | 1770                                                                              | 1583                                                                              |
| Flt Permitted                     |                                                                                   |                                                                                   |                                                                                   | 0.987                                                                             | 0.950                                                                             |                                                                                   |
| Satd. Flow (perm)                 | 1728                                                                              | 0                                                                                 | 0                                                                                 | 1794                                                                              | 1770                                                                              | 1583                                                                              |
| Link Speed (mph)                  | 45                                                                                |                                                                                   |                                                                                   | 45                                                                                | 35                                                                                |                                                                                   |
| Link Distance (ft)                | 940                                                                               |                                                                                   |                                                                                   | 594                                                                               | 438                                                                               |                                                                                   |
| Travel Time (s)                   | 14.2                                                                              |                                                                                   |                                                                                   | 9.0                                                                               | 8.5                                                                               |                                                                                   |
| Peak Hour Factor                  | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              |
| Heavy Vehicles (%)                | 2%                                                                                | 6%                                                                                | 6%                                                                                | 4%                                                                                | 2%                                                                                | 2%                                                                                |
| Adj. Flow (vph)                   | 630                                                                               | 456                                                                               | 114                                                                               | 328                                                                               | 197                                                                               | 132                                                                               |
| Shared Lane Traffic (%)           |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)             | 1086                                                                              | 0                                                                                 | 0                                                                                 | 442                                                                               | 197                                                                               | 132                                                                               |
| Sign Control                      | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              | Stop                                                                              |                                                                                   |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Area Type:                        | Other                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Control Type:                     | Unsignalized                                                                      |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization | 95.9%                                                                             |                                                                                   |                                                                                   | ICU Level of Service F                                                            |                                                                                   |                                                                                   |
| Analysis Period (min)             | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |

# HCM Unsignalized Intersection Capacity Analysis 8: Oakspring Rd & Stevens Mill Rd

Stallings Farms TIA  
2027 Build PM

|                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|                                   |  |  |  |  |  |  |
| Movement                          | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | NBL                                                                               | NBR                                                                               |
| Lane Configurations               |  |                                                                                   |                                                                                   |  |  |  |
| Traffic Volume (veh/h)            | 567                                                                               | 410                                                                               | 103                                                                               | 295                                                                               | 177                                                                               | 119                                                                               |
| Future Volume (Veh/h)             | 567                                                                               | 410                                                                               | 103                                                                               | 295                                                                               | 177                                                                               | 119                                                                               |
| Sign Control                      | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              | Stop                                                                              |                                                                                   |
| Grade                             | 0%                                                                                |                                                                                   |                                                                                   | 0%                                                                                | 0%                                                                                |                                                                                   |
| Peak Hour Factor                  | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              |
| Hourly flow rate (vph)            | 630                                                                               | 456                                                                               | 114                                                                               | 328                                                                               | 197                                                                               | 132                                                                               |
| Pedestrians                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Width (ft)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Walking Speed (ft/s)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Percent Blockage                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Right turn flare (veh)            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 4                                                                                 |
| Median type                       | None                                                                              |                                                                                   |                                                                                   | None                                                                              |                                                                                   |                                                                                   |
| Median storage veh                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Upstream signal (ft)              | 940                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| pX, platoon unblocked             |                                                                                   |                                                                                   | 0.80                                                                              |                                                                                   | 0.80                                                                              | 0.80                                                                              |
| vC, conflicting volume            |                                                                                   |                                                                                   | 1086                                                                              |                                                                                   | 1414                                                                              | 858                                                                               |
| vC1, stage 1 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC2, stage 2 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vCu, unblocked vol                |                                                                                   |                                                                                   | 983                                                                               |                                                                                   | 1393                                                                              | 698                                                                               |
| tC, single (s)                    |                                                                                   |                                                                                   | 4.2                                                                               |                                                                                   | 6.4                                                                               | 6.2                                                                               |
| tC, 2 stage (s)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| tF (s)                            |                                                                                   |                                                                                   | 2.3                                                                               |                                                                                   | 3.5                                                                               | 3.3                                                                               |
| p0 queue free %                   |                                                                                   |                                                                                   | 79                                                                                |                                                                                   | 0                                                                                 | 63                                                                                |
| cM capacity (veh/h)               |                                                                                   |                                                                                   | 550                                                                               |                                                                                   | 99                                                                                | 353                                                                               |
| Direction, Lane #                 | EB 1                                                                              | WB 1                                                                              | NB 1                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Volume Total                      | 1086                                                                              | 442                                                                               | 329                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Volume Left                       | 0                                                                                 | 114                                                                               | 197                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Volume Right                      | 456                                                                               | 0                                                                                 | 132                                                                               |                                                                                   |                                                                                   |                                                                                   |
| cSH                               | 1700                                                                              | 550                                                                               | 143                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Volume to Capacity                | 0.64                                                                              | 0.21                                                                              | 2.30                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Queue Length 95th (ft)            | 0                                                                                 | 19                                                                                | 693                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Control Delay (s)                 | 0.0                                                                               | 5.9                                                                               | 658.8                                                                             |                                                                                   |                                                                                   |                                                                                   |
| Lane LOS                          |                                                                                   | A                                                                                 | F                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| Approach Delay (s)                | 0.0                                                                               | 5.9                                                                               | 658.8                                                                             |                                                                                   |                                                                                   |                                                                                   |
| Approach LOS                      |                                                                                   |                                                                                   | F                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Average Delay                     |                                                                                   | 118.1                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization |                                                                                   | 95.9%                                                                             |                                                                                   | ICU Level of Service                                                              |                                                                                   | F                                                                                 |
| Analysis Period (min)             |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |

Lanes, Volumes, Timings  
9: Stallings Rd & Access #1

Stallings Farms TIA  
2027 Build PM

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations     |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                   |                                                                                     |  |                                                                                     |                                                                                     |  |                                                                                     |
| Traffic Volume (vph)    | 8                                                                                 | 0                                                                                 | 16                                                                                | 34                                                                                | 0                                                                                 | 10                                                                                | 27                                                                                  | 607                                                                                 | 58                                                                                  | 16                                                                                  | 455                                                                                 | 14                                                                                  |
| Future Volume (vph)     | 8                                                                                 | 0                                                                                 | 16                                                                                | 34                                                                                | 0                                                                                 | 10                                                                                | 27                                                                                  | 607                                                                                 | 58                                                                                  | 16                                                                                  | 455                                                                                 | 14                                                                                  |
| Ideal Flow (vphpl)      | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Lane Util. Factor       | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Frt                     |                                                                                   | 0.910                                                                             |                                                                                   |                                                                                   | 0.970                                                                             |                                                                                   |                                                                                     | 0.989                                                                               |                                                                                     |                                                                                     | 0.996                                                                               |                                                                                     |
| Flt Protected           |                                                                                   | 0.984                                                                             |                                                                                   |                                                                                   | 0.963                                                                             |                                                                                   |                                                                                     | 0.998                                                                               |                                                                                     |                                                                                     | 0.998                                                                               |                                                                                     |
| Satd. Flow (prot)       | 0                                                                                 | 1668                                                                              | 0                                                                                 | 0                                                                                 | 1740                                                                              | 0                                                                                 | 0                                                                                   | 1823                                                                                | 0                                                                                   | 0                                                                                   | 1818                                                                                | 0                                                                                   |
| Flt Permitted           |                                                                                   | 0.984                                                                             |                                                                                   |                                                                                   | 0.963                                                                             |                                                                                   |                                                                                     | 0.998                                                                               |                                                                                     |                                                                                     | 0.998                                                                               |                                                                                     |
| Satd. Flow (perm)       | 0                                                                                 | 1668                                                                              | 0                                                                                 | 0                                                                                 | 1740                                                                              | 0                                                                                 | 0                                                                                   | 1823                                                                                | 0                                                                                   | 0                                                                                   | 1818                                                                                | 0                                                                                   |
| Link Speed (mph)        |                                                                                   | 25                                                                                |                                                                                   |                                                                                   | 25                                                                                |                                                                                   |                                                                                     | 45                                                                                  |                                                                                     |                                                                                     | 45                                                                                  |                                                                                     |
| Link Distance (ft)      |                                                                                   | 1031                                                                              |                                                                                   |                                                                                   | 1006                                                                              |                                                                                   |                                                                                     | 1189                                                                                |                                                                                     |                                                                                     | 486                                                                                 |                                                                                     |
| Travel Time (s)         |                                                                                   | 28.1                                                                              |                                                                                   |                                                                                   | 27.4                                                                              |                                                                                   |                                                                                     | 18.0                                                                                |                                                                                     |                                                                                     | 7.4                                                                                 |                                                                                     |
| Peak Hour Factor        | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                |
| Heavy Vehicles (%)      | 2%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                  | 3%                                                                                  | 2%                                                                                  | 2%                                                                                  | 4%                                                                                  | 2%                                                                                  |
| Adj. Flow (vph)         | 9                                                                                 | 0                                                                                 | 18                                                                                | 38                                                                                | 0                                                                                 | 11                                                                                | 30                                                                                  | 674                                                                                 | 64                                                                                  | 18                                                                                  | 506                                                                                 | 16                                                                                  |
| Shared Lane Traffic (%) |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)   | 0                                                                                 | 27                                                                                | 0                                                                                 | 0                                                                                 | 49                                                                                | 0                                                                                 | 0                                                                                   | 768                                                                                 | 0                                                                                   | 0                                                                                   | 540                                                                                 | 0                                                                                   |
| Sign Control            |                                                                                   | Stop                                                                              |                                                                                   |                                                                                   | Stop                                                                              |                                                                                   |                                                                                     | Free                                                                                |                                                                                     |                                                                                     | Free                                                                                |                                                                                     |

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 58.7%

ICU Level of Service B

Analysis Period (min) 15

# HCM Unsignalized Intersection Capacity Analysis

## 9: Stallings Rd & Access #1

Stallings Farms TIA

2027 Build PM

|                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                                   |  |  |  |  |  |  |  |  |  |  |  |  |
| Movement                          | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                   |                                                                                    |  |                                                                                     |                                                                                     |  |                                                                                     |
| Traffic Volume (veh/h)            | 8                                                                                 | 0                                                                                 | 16                                                                                | 34                                                                                | 0                                                                                 | 10                                                                                | 27                                                                                 | 607                                                                                 | 58                                                                                  | 16                                                                                  | 455                                                                                 | 14                                                                                  |
| Future Volume (Veh/h)             | 8                                                                                 | 0                                                                                 | 16                                                                                | 34                                                                                | 0                                                                                 | 10                                                                                | 27                                                                                 | 607                                                                                 | 58                                                                                  | 16                                                                                  | 455                                                                                 | 14                                                                                  |
| Sign Control                      | Stop                                                                              |                                                                                   |                                                                                   |                                                                                   | Stop                                                                              |                                                                                   |                                                                                    |                                                                                     | Free                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Grade                             | 0%                                                                                |                                                                                   |                                                                                   |                                                                                   | 0%                                                                                |                                                                                   |                                                                                    |                                                                                     | 0%                                                                                  |                                                                                     |                                                                                     |                                                                                     |
| Peak Hour Factor                  | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                               | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                |
| Hourly flow rate (vph)            | 9                                                                                 | 0                                                                                 | 18                                                                                | 38                                                                                | 0                                                                                 | 11                                                                                | 30                                                                                 | 674                                                                                 | 64                                                                                  | 18                                                                                  | 506                                                                                 | 16                                                                                  |
| Pedestrians                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Width (ft)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Walking Speed (ft/s)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Percent Blockage                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Right turn flare (veh)            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Median type                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | None                                                                               |                                                                                     |                                                                                     | None                                                                                |                                                                                     |                                                                                     |
| Median storage veh                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Upstream signal (ft)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 486                                                                                 |
| pX, platoon unblocked             | 0.95                                                                              | 0.95                                                                              | 0.95                                                                              | 0.95                                                                              | 0.95                                                                              |                                                                                   | 0.95                                                                               |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| vC, conflicting volume            | 1327                                                                              | 1348                                                                              | 514                                                                               | 1334                                                                              | 1324                                                                              | 706                                                                               | 522                                                                                |                                                                                     |                                                                                     | 738                                                                                 |                                                                                     |                                                                                     |
| vC1, stage 1 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| vC2, stage 2 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| vCu, unblocked vol                | 1318                                                                              | 1340                                                                              | 461                                                                               | 1325                                                                              | 1315                                                                              | 706                                                                               | 470                                                                                |                                                                                     |                                                                                     | 738                                                                                 |                                                                                     |                                                                                     |
| tC, single (s)                    | 7.1                                                                               | 6.5                                                                               | 6.2                                                                               | 7.1                                                                               | 6.5                                                                               | 6.2                                                                               | 4.1                                                                                |                                                                                     |                                                                                     | 4.1                                                                                 |                                                                                     |                                                                                     |
| tC, 2 stage (s)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| tF (s)                            | 3.5                                                                               | 4.0                                                                               | 3.3                                                                               | 3.5                                                                               | 4.0                                                                               | 3.3                                                                               | 2.2                                                                                |                                                                                     |                                                                                     | 2.2                                                                                 |                                                                                     |                                                                                     |
| p0 queue free %                   | 92                                                                                | 100                                                                               | 97                                                                                | 68                                                                                | 100                                                                               | 97                                                                                | 97                                                                                 |                                                                                     |                                                                                     | 98                                                                                  |                                                                                     |                                                                                     |
| cM capacity (veh/h)               | 120                                                                               | 138                                                                               | 570                                                                               | 117                                                                               | 143                                                                               | 436                                                                               | 1037                                                                               |                                                                                     |                                                                                     | 868                                                                                 |                                                                                     |                                                                                     |
| Direction, Lane #                 | EB 1                                                                              | WB 1                                                                              | NB 1                                                                              | SB 1                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Total                      | 27                                                                                | 49                                                                                | 768                                                                               | 540                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Left                       | 9                                                                                 | 38                                                                                | 30                                                                                | 18                                                                                |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Right                      | 18                                                                                | 11                                                                                | 64                                                                                | 16                                                                                |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| cSH                               | 253                                                                               | 140                                                                               | 1037                                                                              | 868                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume to Capacity                | 0.11                                                                              | 0.35                                                                              | 0.03                                                                              | 0.02                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Queue Length 95th (ft)            | 9                                                                                 | 36                                                                                | 2                                                                                 | 2                                                                                 |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Control Delay (s)                 | 20.9                                                                              | 43.8                                                                              | 0.8                                                                               | 0.6                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane LOS                          | C                                                                                 | E                                                                                 | A                                                                                 | A                                                                                 |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Approach Delay (s)                | 20.9                                                                              | 43.8                                                                              | 0.8                                                                               | 0.6                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Approach LOS                      | C                                                                                 | E                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Average Delay                     |                                                                                   |                                                                                   | 2.6                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 58.7%                                                                             | ICU Level of Service                                                              |                                                                                   |                                                                                   |                                                                                    | B                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

Lanes, Volumes, Timings  
10: Oakspring Rd & Access #2

Stallings Farms TIA  
2027 Build PM

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|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group                        | EBL                                                                               | EBR                                                                               | NBL                                                                               | NBT                                                                               | SBT                                                                               | SBR                                                                               |
| Lane Configurations               |  |                                                                                   |                                                                                   |  |  |                                                                                   |
| Traffic Volume (vph)              | 4                                                                                 | 4                                                                                 | 7                                                                                 | 292                                                                               | 507                                                                               | 7                                                                                 |
| Future Volume (vph)               | 4                                                                                 | 4                                                                                 | 7                                                                                 | 292                                                                               | 507                                                                               | 7                                                                                 |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Lane Util. Factor                 | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Frt                               | 0.932                                                                             |                                                                                   |                                                                                   |                                                                                   | 0.998                                                                             |                                                                                   |
| Flt Protected                     | 0.976                                                                             |                                                                                   |                                                                                   | 0.999                                                                             |                                                                                   |                                                                                   |
| Satd. Flow (prot)                 | 1694                                                                              | 0                                                                                 | 0                                                                                 | 1861                                                                              | 1790                                                                              | 0                                                                                 |
| Flt Permitted                     | 0.976                                                                             |                                                                                   |                                                                                   | 0.999                                                                             |                                                                                   |                                                                                   |
| Satd. Flow (perm)                 | 1694                                                                              | 0                                                                                 | 0                                                                                 | 1861                                                                              | 1790                                                                              | 0                                                                                 |
| Link Speed (mph)                  | 25                                                                                |                                                                                   |                                                                                   | 35                                                                                | 35                                                                                |                                                                                   |
| Link Distance (ft)                | 1024                                                                              |                                                                                   |                                                                                   | 537                                                                               | 438                                                                               |                                                                                   |
| Travel Time (s)                   | 27.9                                                                              |                                                                                   |                                                                                   | 10.5                                                                              | 8.5                                                                               |                                                                                   |
| Peak Hour Factor                  | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              |
| Heavy Vehicles (%)                | 2%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                | 6%                                                                                | 2%                                                                                |
| Adj. Flow (vph)                   | 4                                                                                 | 4                                                                                 | 8                                                                                 | 324                                                                               | 563                                                                               | 8                                                                                 |
| Shared Lane Traffic (%)           |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)             | 8                                                                                 | 0                                                                                 | 0                                                                                 | 332                                                                               | 571                                                                               | 0                                                                                 |
| Sign Control                      | Stop                                                                              |                                                                                   |                                                                                   | Free                                                                              | Free                                                                              |                                                                                   |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Area Type:                        | Other                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Control Type:                     | Unsignalized                                                                      |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization | 37.1%                                                                             |                                                                                   |                                                                                   | ICU Level of Service A                                                            |                                                                                   |                                                                                   |
| Analysis Period (min)             | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |

# HCM Unsignalized Intersection Capacity Analysis

## 10: Oakspring Rd & Access #2

Stallings Farms TIA  
2027 Build PM

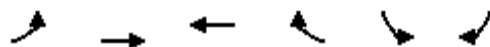


| Movement                          | EBL  | EBR   | NBL  | NBT                  | SBT  | SBR  |
|-----------------------------------|------|-------|------|----------------------|------|------|
| Lane Configurations               |      |       |      |                      |      |      |
| Traffic Volume (veh/h)            | 4    | 4     | 7    | 292                  | 507  | 7    |
| Future Volume (Veh/h)             | 4    | 4     | 7    | 292                  | 507  | 7    |
| Sign Control                      | Stop |       |      | Free                 | Free |      |
| Grade                             | 0%   |       |      | 0%                   | 0%   |      |
| Peak Hour Factor                  | 0.90 | 0.90  | 0.90 | 0.90                 | 0.90 | 0.90 |
| Hourly flow rate (vph)            | 4    | 4     | 8    | 324                  | 563  | 8    |
| Pedestrians                       |      |       |      |                      |      |      |
| Lane Width (ft)                   |      |       |      |                      |      |      |
| Walking Speed (ft/s)              |      |       |      |                      |      |      |
| Percent Blockage                  |      |       |      |                      |      |      |
| Right turn flare (veh)            |      |       |      |                      |      |      |
| Median type                       |      |       |      | None                 | None |      |
| Median storage (veh)              |      |       |      |                      |      |      |
| Upstream signal (ft)              |      |       |      |                      |      |      |
| pX, platoon unblocked             |      |       |      |                      |      |      |
| vC, conflicting volume            | 907  | 567   | 571  |                      |      |      |
| vC1, stage 1 conf vol             |      |       |      |                      |      |      |
| vC2, stage 2 conf vol             |      |       |      |                      |      |      |
| vCu, unblocked vol                | 907  | 567   | 571  |                      |      |      |
| tC, single (s)                    | 6.4  | 6.2   | 4.1  |                      |      |      |
| tC, 2 stage (s)                   |      |       |      |                      |      |      |
| tF (s)                            | 3.5  | 3.3   | 2.2  |                      |      |      |
| p0 queue free %                   | 99   | 99    | 99   |                      |      |      |
| cM capacity (veh/h)               | 304  | 523   | 1002 |                      |      |      |
| Direction, Lane #                 | EB 1 | NB 1  | SB 1 |                      |      |      |
| Volume Total                      | 8    | 332   | 571  |                      |      |      |
| Volume Left                       | 4    | 8     | 0    |                      |      |      |
| Volume Right                      | 4    | 0     | 8    |                      |      |      |
| cSH                               | 384  | 1002  | 1700 |                      |      |      |
| Volume to Capacity                | 0.02 | 0.01  | 0.34 |                      |      |      |
| Queue Length 95th (ft)            | 2    | 1     | 0    |                      |      |      |
| Control Delay (s)                 | 14.6 | 0.3   | 0.0  |                      |      |      |
| Lane LOS                          | B    | A     |      |                      |      |      |
| Approach Delay (s)                | 14.6 | 0.3   | 0.0  |                      |      |      |
| Approach LOS                      | B    |       |      |                      |      |      |
| Intersection Summary              |      |       |      |                      |      |      |
| Average Delay                     |      |       | 0.2  |                      |      |      |
| Intersection Capacity Utilization |      | 37.1% |      | ICU Level of Service |      | A    |
| Analysis Period (min)             |      | 15    |      |                      |      |      |



Lanes, Volumes, Timings  
11: Sweet Birch Dr & Access #3

Stallings Farms TIA  
2027 Build PM



| Lane Group              | EBL  | EBT   | WBT  | WBR  | SBL   | SBR  |
|-------------------------|------|-------|------|------|-------|------|
| Lane Configurations     |      |       |      |      |       |      |
| Traffic Volume (vph)    | 8    | 81    | 47   | 0    | 0     | 5    |
| Future Volume (vph)     | 8    | 81    | 47   | 0    | 0     | 5    |
| Ideal Flow (vphpl)      | 1900 | 1900  | 1900 | 1900 | 1900  | 1900 |
| Lane Util. Factor       | 1.00 | 1.00  | 1.00 | 1.00 | 1.00  | 1.00 |
| Frt                     |      |       |      |      | 0.865 |      |
| Flt Protected           |      | 0.995 |      |      |       |      |
| Satd. Flow (prot)       | 0    | 1853  | 1863 | 0    | 1611  | 0    |
| Flt Permitted           |      | 0.995 |      |      |       |      |
| Satd. Flow (perm)       | 0    | 1853  | 1863 | 0    | 1611  | 0    |
| Link Speed (mph)        |      | 25    | 25   |      | 25    |      |
| Link Distance (ft)      |      | 398   | 289  |      | 1013  |      |
| Travel Time (s)         |      | 10.9  | 7.9  |      | 27.6  |      |
| Peak Hour Factor        | 0.90 | 0.90  | 0.90 | 0.90 | 0.90  | 0.90 |
| Adj. Flow (vph)         | 9    | 90    | 52   | 0    | 0     | 6    |
| Shared Lane Traffic (%) |      |       |      |      |       |      |
| Lane Group Flow (vph)   | 0    | 99    | 52   | 0    | 6     | 0    |
| Sign Control            |      | Free  | Free |      | Stop  |      |

Intersection Summary

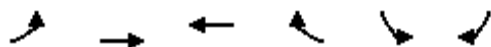
|                                         |                        |
|-----------------------------------------|------------------------|
| Area Type:                              | Other                  |
| Control Type:                           | Unsignalized           |
| Intersection Capacity Utilization 20.9% | ICU Level of Service A |
| Analysis Period (min) 15                |                        |

# HCM Unsignalized Intersection Capacity Analysis

## 11: Sweet Birch Dr & Access #3

Stallings Farms TIA

2027 Build PM



| Movement                          | EBL  | EBT                                                                               | WBT                                                                               | WBR  | SBL                                                                               | SBR  |
|-----------------------------------|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|-----------------------------------------------------------------------------------|------|
| Lane Configurations               |      |  |  |      |  |      |
| Traffic Volume (veh/h)            | 8    | 81                                                                                | 47                                                                                | 0    | 0                                                                                 | 5    |
| Future Volume (Veh/h)             | 8    | 81                                                                                | 47                                                                                | 0    | 0                                                                                 | 5    |
| Sign Control                      |      | Free                                                                              | Free                                                                              |      | Stop                                                                              |      |
| Grade                             |      | 0%                                                                                | 0%                                                                                |      | 0%                                                                                |      |
| Peak Hour Factor                  | 0.90 | 0.90                                                                              | 0.90                                                                              | 0.90 | 0.90                                                                              | 0.90 |
| Hourly flow rate (vph)            | 9    | 90                                                                                | 52                                                                                | 0    | 0                                                                                 | 6    |
| Pedestrians                       |      |                                                                                   |                                                                                   |      |                                                                                   |      |
| Lane Width (ft)                   |      |                                                                                   |                                                                                   |      |                                                                                   |      |
| Walking Speed (ft/s)              |      |                                                                                   |                                                                                   |      |                                                                                   |      |
| Percent Blockage                  |      |                                                                                   |                                                                                   |      |                                                                                   |      |
| Right turn flare (veh)            |      |                                                                                   |                                                                                   |      |                                                                                   |      |
| Median type                       |      | None                                                                              | None                                                                              |      |                                                                                   |      |
| Median storage veh)               |      |                                                                                   |                                                                                   |      |                                                                                   |      |
| Upstream signal (ft)              |      |                                                                                   |                                                                                   |      |                                                                                   |      |
| pX, platoon unblocked             |      |                                                                                   |                                                                                   |      |                                                                                   |      |
| vC, conflicting volume            | 52   |                                                                                   |                                                                                   |      | 160                                                                               | 52   |
| vC1, stage 1 conf vol             |      |                                                                                   |                                                                                   |      |                                                                                   |      |
| vC2, stage 2 conf vol             |      |                                                                                   |                                                                                   |      |                                                                                   |      |
| vCu, unblocked vol                | 52   |                                                                                   |                                                                                   |      | 160                                                                               | 52   |
| tC, single (s)                    | 4.1  |                                                                                   |                                                                                   |      | 6.4                                                                               | 6.2  |
| tC, 2 stage (s)                   |      |                                                                                   |                                                                                   |      |                                                                                   |      |
| tF (s)                            | 2.2  |                                                                                   |                                                                                   |      | 3.5                                                                               | 3.3  |
| p0 queue free %                   | 99   |                                                                                   |                                                                                   |      | 100                                                                               | 99   |
| cM capacity (veh/h)               | 1554 |                                                                                   |                                                                                   |      | 826                                                                               | 1016 |
| Direction, Lane #                 | EB 1 | WB 1                                                                              | SB 1                                                                              |      |                                                                                   |      |
| Volume Total                      | 99   | 52                                                                                | 6                                                                                 |      |                                                                                   |      |
| Volume Left                       | 9    | 0                                                                                 | 0                                                                                 |      |                                                                                   |      |
| Volume Right                      | 0    | 0                                                                                 | 6                                                                                 |      |                                                                                   |      |
| cSH                               | 1554 | 1700                                                                              | 1016                                                                              |      |                                                                                   |      |
| Volume to Capacity                | 0.01 | 0.03                                                                              | 0.01                                                                              |      |                                                                                   |      |
| Queue Length 95th (ft)            | 0    | 0                                                                                 | 0                                                                                 |      |                                                                                   |      |
| Control Delay (s)                 | 0.7  | 0.0                                                                               | 8.6                                                                               |      |                                                                                   |      |
| Lane LOS                          | A    |                                                                                   | A                                                                                 |      |                                                                                   |      |
| Approach Delay (s)                | 0.7  | 0.0                                                                               | 8.6                                                                               |      |                                                                                   |      |
| Approach LOS                      |      |                                                                                   | A                                                                                 |      |                                                                                   |      |
| Intersection Summary              |      |                                                                                   |                                                                                   |      |                                                                                   |      |
| Average Delay                     |      |                                                                                   | 0.8                                                                               |      |                                                                                   |      |
| Intersection Capacity Utilization |      |                                                                                   | 20.9%                                                                             |      | ICU Level of Service                                                              |      |
| Analysis Period (min)             |      |                                                                                   | 15                                                                                |      | A                                                                                 |      |

2027 Build-out Conditions  
*Improved*



Lanes, Volumes, Timings  
1: Stallings Rd & Stevens Mill Rd

Stallings Farms TIA  
2027 Build IMP AM

|                         |  |  |  |  |  |  |   |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations     |                                                                                   |  |  |  |  |  |  |  |                                                                                     |  |  |                                                                                     |
| Traffic Volume (vph)    | 39                                                                                | 78                                                                                | 124                                                                               | 257                                                                               | 227                                                                               | 370                                                                               | 75                                                                                  | 168                                                                                 | 128                                                                                 | 340                                                                                 | 231                                                                                 | 44                                                                                  |
| Future Volume (vph)     | 39                                                                                | 78                                                                                | 124                                                                               | 257                                                                               | 227                                                                               | 370                                                                               | 75                                                                                  | 168                                                                                 | 128                                                                                 | 340                                                                                 | 231                                                                                 | 44                                                                                  |
| Ideal Flow (vphpl)      | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)     | 0                                                                                 |                                                                                   | 100                                                                               | 250                                                                               |                                                                                   | 300                                                                               | 150                                                                                 |                                                                                     | 250                                                                                 | 225                                                                                 |                                                                                     | 0                                                                                   |
| Storage Lanes           | 0                                                                                 |                                                                                   | 1                                                                                 | 1                                                                                 |                                                                                   | 1                                                                                 | 1                                                                                   |                                                                                     | 0                                                                                   | 1                                                                                   |                                                                                     | 0                                                                                   |
| Taper Length (ft)       | 25                                                                                |                                                                                   |                                                                                   | 100                                                                               |                                                                                   |                                                                                   | 100                                                                                 |                                                                                     |                                                                                     | 100                                                                                 |                                                                                     |                                                                                     |
| Lane Util. Factor       | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Ped Bike Factor         |                                                                                   |                                                                                   | 0.97                                                                              | 0.99                                                                              |                                                                                   |                                                                                   | 1.00                                                                                |                                                                                     |                                                                                     |                                                                                     | 1.00                                                                                |                                                                                     |
| Frt                     |                                                                                   |                                                                                   | 0.850                                                                             |                                                                                   |                                                                                   | 0.850                                                                             |                                                                                     | 0.931                                                                               |                                                                                     |                                                                                     | 0.980                                                                               |                                                                                     |
| Flt Protected           |                                                                                   | 0.983                                                                             |                                                                                   | 0.950                                                                             |                                                                                   |                                                                                   | 0.950                                                                               |                                                                                     |                                                                                     | 0.950                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (prot)       | 0                                                                                 | 1788                                                                              | 1538                                                                              | 1770                                                                              | 1863                                                                              | 1553                                                                              | 1770                                                                                | 1664                                                                                | 0                                                                                   | 1752                                                                                | 1801                                                                                | 0                                                                                   |
| Flt Permitted           |                                                                                   | 0.810                                                                             |                                                                                   | 0.664                                                                             |                                                                                   |                                                                                   | 0.469                                                                               |                                                                                     |                                                                                     | 0.491                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (perm)       | 0                                                                                 | 1473                                                                              | 1497                                                                              | 1230                                                                              | 1863                                                                              | 1553                                                                              | 871                                                                                 | 1664                                                                                | 0                                                                                   | 906                                                                                 | 1801                                                                                | 0                                                                                   |
| Right Turn on Red       |                                                                                   |                                                                                   | No                                                                                |                                                                                   |                                                                                   | No                                                                                |                                                                                     |                                                                                     | No                                                                                  |                                                                                     |                                                                                     | No                                                                                  |
| Satd. Flow (RTOR)       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Link Speed (mph)        |                                                                                   | 45                                                                                |                                                                                   |                                                                                   | 45                                                                                |                                                                                   |                                                                                     | 45                                                                                  |                                                                                     |                                                                                     | 45                                                                                  |                                                                                     |
| Link Distance (ft)      |                                                                                   | 1672                                                                              |                                                                                   |                                                                                   | 940                                                                               |                                                                                   |                                                                                     | 447                                                                                 |                                                                                     |                                                                                     | 1502                                                                                |                                                                                     |
| Travel Time (s)         |                                                                                   | 25.3                                                                              |                                                                                   |                                                                                   | 14.2                                                                              |                                                                                   |                                                                                     | 6.8                                                                                 |                                                                                     |                                                                                     | 22.8                                                                                |                                                                                     |
| Confl. Peds. (#/hr)     |                                                                                   |                                                                                   | 3                                                                                 | 3                                                                                 |                                                                                   |                                                                                   | 3                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 3                                                                                   |
| Peak Hour Factor        | 0.77                                                                              | 0.82                                                                              | 0.74                                                                              | 0.82                                                                              | 0.80                                                                              | 0.72                                                                              | 0.82                                                                                | 0.86                                                                                | 0.77                                                                                | 0.69                                                                                | 0.69                                                                                | 0.84                                                                                |
| Heavy Vehicles (%)      | 9%                                                                                | 2%                                                                                | 5%                                                                                | 2%                                                                                | 2%                                                                                | 4%                                                                                | 2%                                                                                  | 4%                                                                                  | 9%                                                                                  | 3%                                                                                  | 3%                                                                                  | 3%                                                                                  |
| Adj. Flow (vph)         | 51                                                                                | 95                                                                                | 168                                                                               | 313                                                                               | 284                                                                               | 514                                                                               | 91                                                                                  | 195                                                                                 | 166                                                                                 | 493                                                                                 | 335                                                                                 | 52                                                                                  |
| Shared Lane Traffic (%) |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)   | 0                                                                                 | 146                                                                               | 168                                                                               | 313                                                                               | 284                                                                               | 514                                                                               | 91                                                                                  | 361                                                                                 | 0                                                                                   | 493                                                                                 | 387                                                                                 | 0                                                                                   |
| Turn Type               | Perm                                                                              | NA                                                                                | Perm                                                                              | Perm                                                                              | NA                                                                                | Perm                                                                              | Perm                                                                                | NA                                                                                  |                                                                                     | Perm                                                                                | NA                                                                                  |                                                                                     |
| Protected Phases        |                                                                                   | 4                                                                                 |                                                                                   |                                                                                   | 8                                                                                 |                                                                                   |                                                                                     | 2                                                                                   |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     |
| Permitted Phases        | 4                                                                                 |                                                                                   | 4                                                                                 | 8                                                                                 |                                                                                   | 8                                                                                 | 2                                                                                   |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     |                                                                                     |
| Detector Phase          | 4                                                                                 | 4                                                                                 | 4                                                                                 | 8                                                                                 | 8                                                                                 | 8                                                                                 | 2                                                                                   | 2                                                                                   |                                                                                     | 6                                                                                   | 6                                                                                   |                                                                                     |
| Switch Phase            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)     | 7.0                                                                               | 7.0                                                                               | 7.0                                                                               | 7.0                                                                               | 7.0                                                                               | 7.0                                                                               | 12.0                                                                                | 12.0                                                                                |                                                                                     | 12.0                                                                                | 12.0                                                                                |                                                                                     |
| Minimum Split (s)       | 25.0                                                                              | 25.0                                                                              | 25.0                                                                              | 25.0                                                                              | 25.0                                                                              | 25.0                                                                              | 25.0                                                                                | 25.0                                                                                |                                                                                     | 25.0                                                                                | 25.0                                                                                |                                                                                     |
| Total Split (s)         | 32.0                                                                              | 32.0                                                                              | 32.0                                                                              | 32.0                                                                              | 32.0                                                                              | 32.0                                                                              | 48.0                                                                                | 48.0                                                                                |                                                                                     | 48.0                                                                                | 48.0                                                                                |                                                                                     |
| Total Split (%)         | 40.0%                                                                             | 40.0%                                                                             | 40.0%                                                                             | 40.0%                                                                             | 40.0%                                                                             | 40.0%                                                                             | 60.0%                                                                               | 60.0%                                                                               |                                                                                     | 60.0%                                                                               | 60.0%                                                                               |                                                                                     |
| Maximum Green (s)       | 25.0                                                                              | 25.0                                                                              | 25.0                                                                              | 25.0                                                                              | 25.0                                                                              | 25.0                                                                              | 41.0                                                                                | 41.0                                                                                |                                                                                     | 41.0                                                                                | 41.0                                                                                |                                                                                     |
| Yellow Time (s)         | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                                 | 5.0                                                                                 |                                                                                     | 5.0                                                                                 | 5.0                                                                                 |                                                                                     |
| All-Red Time (s)        | 2.0                                                                               | 2.0                                                                               | 2.0                                                                               | 2.0                                                                               | 2.0                                                                               | 2.0                                                                               | 2.0                                                                                 | 2.0                                                                                 |                                                                                     | 2.0                                                                                 | 2.0                                                                                 |                                                                                     |
| Lost Time Adjust (s)    |                                                                                   | -2.0                                                                              | -2.0                                                                              | -2.0                                                                              | -2.0                                                                              | -2.0                                                                              | -2.0                                                                                | -2.0                                                                                |                                                                                     | -2.0                                                                                | -2.0                                                                                |                                                                                     |
| Total Lost Time (s)     |                                                                                   | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                                 | 5.0                                                                                 |                                                                                     | 5.0                                                                                 | 5.0                                                                                 |                                                                                     |
| Lead/Lag                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lead-Lag Optimize?      |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Vehicle Extension (s)   | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                                 | 3.0                                                                                 |                                                                                     | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |
| Recall Mode             | None                                                                              | None                                                                              | None                                                                              | None                                                                              | None                                                                              | None                                                                              | Min                                                                                 | Min                                                                                 |                                                                                     | Min                                                                                 | Min                                                                                 |                                                                                     |
| Walk Time (s)           | 7.0                                                                               | 7.0                                                                               | 7.0                                                                               | 7.0                                                                               | 7.0                                                                               | 7.0                                                                               | 7.0                                                                                 | 7.0                                                                                 |                                                                                     | 7.0                                                                                 | 7.0                                                                                 |                                                                                     |
| Flash Dont Walk (s)     | 11.0                                                                              | 11.0                                                                              | 11.0                                                                              | 11.0                                                                              | 11.0                                                                              | 11.0                                                                              | 11.0                                                                                | 11.0                                                                                |                                                                                     | 11.0                                                                                | 11.0                                                                                |                                                                                     |
| Pedestrian Calls (#/hr) | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     |
| Act Effct Green (s)     |                                                                                   | 27.0                                                                              | 27.0                                                                              | 27.0                                                                              | 27.0                                                                              | 27.0                                                                              | 43.0                                                                                | 43.0                                                                                |                                                                                     | 43.0                                                                                | 43.0                                                                                |                                                                                     |
| Actuated g/C Ratio      |                                                                                   | 0.34                                                                              | 0.34                                                                              | 0.34                                                                              | 0.34                                                                              | 0.34                                                                              | 0.54                                                                                | 0.54                                                                                |                                                                                     | 0.54                                                                                | 0.54                                                                                |                                                                                     |
| v/c Ratio               |                                                                                   | 0.29                                                                              | 0.33                                                                              | 0.75                                                                              | 0.45                                                                              | 0.98                                                                              | 0.19                                                                                | 0.40                                                                                |                                                                                     | 1.01                                                                                | 0.40                                                                                |                                                                                     |

Lanes, Volumes, Timings  
1: Stallings Rd & Stevens Mill Rd

Stallings Farms TIA  
2027 Build IMP AM

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Control Delay           |                                                                                   | 21.5                                                                              | 22.1                                                                              | 37.3                                                                              | 23.6                                                                              | 63.7                                                                              | 10.9                                                                               | 12.6                                                                                |                                                                                     | 66.4                                                                                | 12.5                                                                                |                                                                                     |
| Queue Delay             |                                                                                   | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                | 0.0                                                                                 |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Delay             |                                                                                   | 21.5                                                                              | 22.1                                                                              | 37.3                                                                              | 23.6                                                                              | 63.7                                                                              | 10.9                                                                               | 12.6                                                                                |                                                                                     | 66.4                                                                                | 12.5                                                                                |                                                                                     |
| LOS                     |                                                                                   | C                                                                                 | C                                                                                 | D                                                                                 | C                                                                                 | E                                                                                 | B                                                                                  | B                                                                                   |                                                                                     | E                                                                                   | B                                                                                   |                                                                                     |
| Approach Delay          |                                                                                   | 21.8                                                                              |                                                                                   |                                                                                   | 46.0                                                                              |                                                                                   |                                                                                    | 12.3                                                                                |                                                                                     |                                                                                     | 42.7                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | C                                                                                 |                                                                                   |                                                                                   | D                                                                                 |                                                                                   |                                                                                    | B                                                                                   |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |
| Queue Length 50th (ft)  |                                                                                   | 53                                                                                | 62                                                                                | 137                                                                               | 109                                                                               | 251                                                                               | 22                                                                                 | 99                                                                                  |                                                                                     | ~239                                                                                | 106                                                                                 |                                                                                     |
| Queue Length 95th (ft)  |                                                                                   | 89                                                                                | 89                                                                                | #208                                                                              | 154                                                                               | #304                                                                              | 43                                                                                 | 150                                                                                 |                                                                                     | #280                                                                                | 117                                                                                 |                                                                                     |
| Internal Link Dist (ft) |                                                                                   | 1592                                                                              |                                                                                   |                                                                                   | 860                                                                               |                                                                                   |                                                                                    | 367                                                                                 |                                                                                     |                                                                                     | 1422                                                                                |                                                                                     |
| Turn Bay Length (ft)    |                                                                                   |                                                                                   | 100                                                                               | 250                                                                               |                                                                                   | 300                                                                               | 150                                                                                |                                                                                     |                                                                                     | 225                                                                                 |                                                                                     |                                                                                     |
| Base Capacity (vph)     |                                                                                   | 497                                                                               | 505                                                                               | 415                                                                               | 628                                                                               | 524                                                                               | 468                                                                                | 894                                                                                 |                                                                                     | 486                                                                                 | 968                                                                                 |                                                                                     |
| Starvation Cap Reductn  |                                                                                   | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                  | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     |
| Spillback Cap Reductn   |                                                                                   | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                  | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     |
| Storage Cap Reductn     |                                                                                   | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                  | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     |
| Reduced v/c Ratio       |                                                                                   | 0.29                                                                              | 0.33                                                                              | 0.75                                                                              | 0.45                                                                              | 0.98                                                                              | 0.19                                                                               | 0.40                                                                                |                                                                                     | 1.01                                                                                | 0.40                                                                                |                                                                                     |

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 80

Natural Cycle: 80

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.01

Intersection Signal Delay: 36.7

Intersection LOS: D

Intersection Capacity Utilization 73.5%

ICU Level of Service D

Analysis Period (min) 15

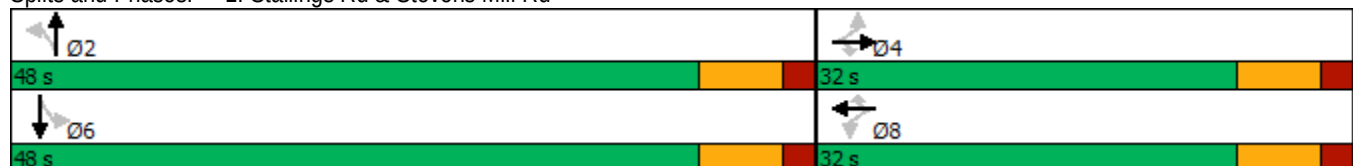
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: Stallings Rd & Stevens Mill Rd



Lanes, Volumes, Timings  
2: Stallings Rd & Sweet Birch Dr

Stallings Farms TIA  
2027 Build IMP AM

|                                         |  |  |  |  |  |  |
|-----------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group                              | WBL                                                                               | WBR                                                                               | NBT                                                                               | NBR                                                                               | SBL                                                                               | SBT                                                                               |
| Lane Configurations                     |  |  |  |                                                                                   |                                                                                   |  |
| Traffic Volume (vph)                    | 54                                                                                | 33                                                                                | 336                                                                               | 11                                                                                | 19                                                                                | 660                                                                               |
| Future Volume (vph)                     | 54                                                                                | 33                                                                                | 336                                                                               | 11                                                                                | 19                                                                                | 660                                                                               |
| Ideal Flow (vphpl)                      | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Storage Length (ft)                     | 0                                                                                 | 100                                                                               |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |
| Storage Lanes                           | 1                                                                                 | 1                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |
| Taper Length (ft)                       | 25                                                                                |                                                                                   |                                                                                   |                                                                                   | 25                                                                                |                                                                                   |
| Lane Util. Factor                       | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Frt                                     |                                                                                   | 0.850                                                                             | 0.996                                                                             |                                                                                   |                                                                                   |                                                                                   |
| Flt Protected                           | 0.950                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.998                                                                             |
| Satd. Flow (prot)                       | 1770                                                                              | 1583                                                                              | 1788                                                                              | 0                                                                                 | 0                                                                                 | 1842                                                                              |
| Flt Permitted                           | 0.950                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.998                                                                             |
| Satd. Flow (perm)                       | 1770                                                                              | 1583                                                                              | 1788                                                                              | 0                                                                                 | 0                                                                                 | 1842                                                                              |
| Link Speed (mph)                        | 25                                                                                |                                                                                   | 45                                                                                |                                                                                   |                                                                                   | 45                                                                                |
| Link Distance (ft)                      | 597                                                                               |                                                                                   | 2030                                                                              |                                                                                   |                                                                                   | 1224                                                                              |
| Travel Time (s)                         | 16.3                                                                              |                                                                                   | 30.8                                                                              |                                                                                   |                                                                                   | 18.5                                                                              |
| Peak Hour Factor                        | 0.90                                                                              | 0.90                                                                              | 0.82                                                                              | 0.80                                                                              | 0.56                                                                              | 0.63                                                                              |
| Heavy Vehicles (%)                      | 2%                                                                                | 2%                                                                                | 6%                                                                                | 2%                                                                                | 2%                                                                                | 3%                                                                                |
| Adj. Flow (vph)                         | 60                                                                                | 37                                                                                | 410                                                                               | 14                                                                                | 34                                                                                | 1048                                                                              |
| Shared Lane Traffic (%)                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)                   | 60                                                                                | 37                                                                                | 424                                                                               | 0                                                                                 | 0                                                                                 | 1082                                                                              |
| Sign Control                            | Stop                                                                              |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              |
| Intersection Summary                    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Area Type:                              | Other                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Control Type: Unsignalized              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization 60.0% |                                                                                   |                                                                                   | ICU Level of Service B                                                            |                                                                                   |                                                                                   |                                                                                   |
| Analysis Period (min) 15                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |

# HCM Unsignalized Intersection Capacity Analysis

## 2: Stallings Rd & Sweet Birch Dr

Stallings Farms TIA  
2027 Build IMP AM

|                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|                                   |  |  |  |  |  |  |
| Movement                          | WBL                                                                               | WBR                                                                               | NBT                                                                               | NBR                                                                               | SBL                                                                               | SBT                                                                               |
| Lane Configurations               |  |  |  |                                                                                   |                                                                                   |  |
| Traffic Volume (veh/h)            | 54                                                                                | 33                                                                                | 336                                                                               | 11                                                                                | 19                                                                                | 660                                                                               |
| Future Volume (Veh/h)             | 54                                                                                | 33                                                                                | 336                                                                               | 11                                                                                | 19                                                                                | 660                                                                               |
| Sign Control                      | Stop                                                                              |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              |
| Grade                             | 0%                                                                                |                                                                                   | 0%                                                                                |                                                                                   |                                                                                   | 0%                                                                                |
| Peak Hour Factor                  | 0.90                                                                              | 0.90                                                                              | 0.82                                                                              | 0.80                                                                              | 0.56                                                                              | 0.63                                                                              |
| Hourly flow rate (vph)            | 60                                                                                | 37                                                                                | 410                                                                               | 14                                                                                | 34                                                                                | 1048                                                                              |
| Pedestrians                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Width (ft)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Walking Speed (ft/s)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Percent Blockage                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Right turn flare (veh)            |                                                                                   | 4                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Median type                       |                                                                                   |                                                                                   | None                                                                              |                                                                                   |                                                                                   | None                                                                              |
| Median storage (veh)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Upstream signal (ft)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| pX, platoon unblocked             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC, conflicting volume            | 1533                                                                              | 417                                                                               |                                                                                   |                                                                                   | 424                                                                               |                                                                                   |
| vC1, stage 1 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC2, stage 2 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vCu, unblocked vol                | 1533                                                                              | 417                                                                               |                                                                                   |                                                                                   | 424                                                                               |                                                                                   |
| tC, single (s)                    | 6.4                                                                               | 6.2                                                                               |                                                                                   |                                                                                   | 4.1                                                                               |                                                                                   |
| tC, 2 stage (s)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| tF (s)                            | 3.5                                                                               | 3.3                                                                               |                                                                                   |                                                                                   | 2.2                                                                               |                                                                                   |
| p0 queue free %                   | 52                                                                                | 94                                                                                |                                                                                   |                                                                                   | 97                                                                                |                                                                                   |
| cM capacity (veh/h)               | 124                                                                               | 636                                                                               |                                                                                   |                                                                                   | 1135                                                                              |                                                                                   |
| Direction, Lane #                 | WB 1                                                                              | NB 1                                                                              | SB 1                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Volume Total                      | 97                                                                                | 424                                                                               | 1082                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Volume Left                       | 60                                                                                | 0                                                                                 | 34                                                                                |                                                                                   |                                                                                   |                                                                                   |
| Volume Right                      | 37                                                                                | 14                                                                                | 0                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| cSH                               | 201                                                                               | 1700                                                                              | 1135                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Volume to Capacity                | 0.48                                                                              | 0.25                                                                              | 0.03                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Queue Length 95th (ft)            | 59                                                                                | 0                                                                                 | 2                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| Control Delay (s)                 | 40.3                                                                              | 0.0                                                                               | 0.9                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Lane LOS                          | E                                                                                 |                                                                                   | A                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| Approach Delay (s)                | 40.3                                                                              | 0.0                                                                               | 0.9                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Approach LOS                      | E                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Average Delay                     |                                                                                   | 3.0                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization |                                                                                   | 60.0%                                                                             | ICU Level of Service                                                              | B                                                                                 |                                                                                   |                                                                                   |
| Analysis Period (min)             |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |



Lanes, Volumes, Timings  
8: Oakspring Rd & Stevens Mill Rd

Stallings Farms TIA  
2027 Build IMP AM

|                                   |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group                        | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | NBL                                                                               | NBR                                                                               |
| Lane Configurations               |  |  |                                                                                   |  |  |  |
| Traffic Volume (vph)              | 295                                                                               | 383                                                                               | 184                                                                               | 624                                                                               | 295                                                                               | 102                                                                               |
| Future Volume (vph)               | 295                                                                               | 383                                                                               | 184                                                                               | 624                                                                               | 295                                                                               | 102                                                                               |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Storage Length (ft)               |                                                                                   | 100                                                                               | 0                                                                                 |                                                                                   | 0                                                                                 | 100                                                                               |
| Storage Lanes                     |                                                                                   | 1                                                                                 | 0                                                                                 |                                                                                   | 1                                                                                 | 1                                                                                 |
| Taper Length (ft)                 |                                                                                   |                                                                                   | 25                                                                                |                                                                                   | 25                                                                                |                                                                                   |
| Lane Util. Factor                 | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Frt                               |                                                                                   | 0.850                                                                             |                                                                                   |                                                                                   |                                                                                   | 0.850                                                                             |
| Flt Protected                     |                                                                                   |                                                                                   |                                                                                   | 0.990                                                                             | 0.950                                                                             |                                                                                   |
| Satd. Flow (prot)                 | 1827                                                                              | 1583                                                                              | 0                                                                                 | 1844                                                                              | 1719                                                                              | 1442                                                                              |
| Flt Permitted                     |                                                                                   |                                                                                   |                                                                                   | 0.990                                                                             | 0.950                                                                             |                                                                                   |
| Satd. Flow (perm)                 | 1827                                                                              | 1583                                                                              | 0                                                                                 | 1844                                                                              | 1719                                                                              | 1442                                                                              |
| Link Speed (mph)                  | 45                                                                                |                                                                                   |                                                                                   | 45                                                                                | 35                                                                                |                                                                                   |
| Link Distance (ft)                | 940                                                                               |                                                                                   |                                                                                   | 594                                                                               | 477                                                                               |                                                                                   |
| Travel Time (s)                   | 14.2                                                                              |                                                                                   |                                                                                   | 9.0                                                                               | 9.3                                                                               |                                                                                   |
| Peak Hour Factor                  | 0.59                                                                              | 0.86                                                                              | 0.81                                                                              | 0.74                                                                              | 0.90                                                                              | 0.81                                                                              |
| Heavy Vehicles (%)                | 4%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                | 5%                                                                                | 12%                                                                               |
| Adj. Flow (vph)                   | 500                                                                               | 445                                                                               | 227                                                                               | 843                                                                               | 328                                                                               | 126                                                                               |
| Shared Lane Traffic (%)           |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)             | 500                                                                               | 445                                                                               | 0                                                                                 | 1070                                                                              | 328                                                                               | 126                                                                               |
| Sign Control                      | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              | Stop                                                                              |                                                                                   |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Area Type:                        | Other                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Control Type:                     | Unsignalized                                                                      |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization | 84.9%                                                                             |                                                                                   |                                                                                   | ICU Level of Service E                                                            |                                                                                   |                                                                                   |
| Analysis Period (min)             | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |

# HCM Unsignalized Intersection Capacity Analysis

## 8: Oakspring Rd & Stevens Mill Rd

Stallings Farms TIA  
2027 Build IMP AM

|                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|                                   |  |  |  |  |  |  |
| Movement                          | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | NBL                                                                               | NBR                                                                               |
| Lane Configurations               |  |  |                                                                                   |  |  |  |
| Traffic Volume (veh/h)            | 295                                                                               | 383                                                                               | 184                                                                               | 624                                                                               | 295                                                                               | 102                                                                               |
| Future Volume (Veh/h)             | 295                                                                               | 383                                                                               | 184                                                                               | 624                                                                               | 295                                                                               | 102                                                                               |
| Sign Control                      | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              | Stop                                                                              |                                                                                   |
| Grade                             | 0%                                                                                |                                                                                   |                                                                                   | 0%                                                                                | 0%                                                                                |                                                                                   |
| Peak Hour Factor                  | 0.59                                                                              | 0.86                                                                              | 0.81                                                                              | 0.74                                                                              | 0.90                                                                              | 0.81                                                                              |
| Hourly flow rate (vph)            | 500                                                                               | 445                                                                               | 227                                                                               | 843                                                                               | 328                                                                               | 126                                                                               |
| Pedestrians                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Width (ft)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Walking Speed (ft/s)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Percent Blockage                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Right turn flare (veh)            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 4                                                                                 |
| Median type                       | None                                                                              |                                                                                   | None                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Median storage veh                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Upstream signal (ft)              | 940                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| pX, platoon unblocked             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC, conflicting volume            |                                                                                   |                                                                                   | 945                                                                               |                                                                                   | 1797                                                                              | 500                                                                               |
| vC1, stage 1 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC2, stage 2 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vCu, unblocked vol                |                                                                                   |                                                                                   | 945                                                                               |                                                                                   | 1797                                                                              | 500                                                                               |
| tC, single (s)                    |                                                                                   |                                                                                   | 4.1                                                                               |                                                                                   | 6.4                                                                               | 6.3                                                                               |
| tC, 2 stage (s)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| tF (s)                            |                                                                                   |                                                                                   | 2.2                                                                               |                                                                                   | 3.5                                                                               | 3.4                                                                               |
| p0 queue free %                   |                                                                                   |                                                                                   | 69                                                                                |                                                                                   | 0                                                                                 | 77                                                                                |
| cM capacity (veh/h)               |                                                                                   |                                                                                   | 726                                                                               |                                                                                   | 60                                                                                | 551                                                                               |
| Direction, Lane #                 | EB 1                                                                              | EB 2                                                                              | WB 1                                                                              | NB 1                                                                              |                                                                                   |                                                                                   |
| Volume Total                      | 500                                                                               | 445                                                                               | 1070                                                                              | 454                                                                               |                                                                                   |                                                                                   |
| Volume Left                       | 0                                                                                 | 0                                                                                 | 227                                                                               | 328                                                                               |                                                                                   |                                                                                   |
| Volume Right                      | 0                                                                                 | 445                                                                               | 0                                                                                 | 126                                                                               |                                                                                   |                                                                                   |
| cSH                               | 1700                                                                              | 1700                                                                              | 726                                                                               | 79                                                                                |                                                                                   |                                                                                   |
| Volume to Capacity                | 0.29                                                                              | 0.26                                                                              | 0.31                                                                              | 5.74                                                                              |                                                                                   |                                                                                   |
| Queue Length 95th (ft)            | 0                                                                                 | 0                                                                                 | 33                                                                                | Err                                                                               |                                                                                   |                                                                                   |
| Control Delay (s)                 | 0.0                                                                               | 0.0                                                                               | 8.5                                                                               | Err                                                                               |                                                                                   |                                                                                   |
| Lane LOS                          |                                                                                   |                                                                                   | A                                                                                 | F                                                                                 |                                                                                   |                                                                                   |
| Approach Delay (s)                | 0.0                                                                               |                                                                                   | 8.5                                                                               | Err                                                                               |                                                                                   |                                                                                   |
| Approach LOS                      |                                                                                   |                                                                                   |                                                                                   | F                                                                                 |                                                                                   |                                                                                   |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Average Delay                     |                                                                                   |                                                                                   | 1842.3                                                                            |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 84.9%                                                                             | ICU Level of Service                                                              | E                                                                                 |                                                                                   |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |

Lanes, Volumes, Timings  
1: Stallings Rd & Stevens Mill Rd

Stallings Farms TIA  
2027 Build-IMP PM

|                         |  |  |  |  |  |  |   |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations     |                                                                                   |  |  |  |  |  |  |  |                                                                                     |  |  |                                                                                     |
| Traffic Volume (vph)    | 17                                                                                | 217                                                                               | 98                                                                                | 179                                                                               | 72                                                                                | 108                                                                               | 94                                                                                  | 203                                                                                 | 328                                                                                 | 356                                                                                 | 208                                                                                 | 25                                                                                  |
| Future Volume (vph)     | 17                                                                                | 217                                                                               | 98                                                                                | 179                                                                               | 72                                                                                | 108                                                                               | 94                                                                                  | 203                                                                                 | 328                                                                                 | 356                                                                                 | 208                                                                                 | 25                                                                                  |
| Ideal Flow (vphpl)      | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)     | 0                                                                                 |                                                                                   | 100                                                                               | 250                                                                               |                                                                                   | 300                                                                               | 150                                                                                 |                                                                                     | 250                                                                                 | 225                                                                                 |                                                                                     | 0                                                                                   |
| Storage Lanes           | 0                                                                                 |                                                                                   | 1                                                                                 | 1                                                                                 |                                                                                   | 1                                                                                 | 1                                                                                   |                                                                                     | 0                                                                                   | 1                                                                                   |                                                                                     | 0                                                                                   |
| Taper Length (ft)       | 25                                                                                |                                                                                   |                                                                                   | 100                                                                               |                                                                                   |                                                                                   | 100                                                                                 |                                                                                     |                                                                                     | 100                                                                                 |                                                                                     |                                                                                     |
| Lane Util. Factor       | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Ped Bike Factor         |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.98                                                                              |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Frt                     |                                                                                   |                                                                                   | 0.850                                                                             |                                                                                   |                                                                                   | 0.850                                                                             |                                                                                     | 0.907                                                                               |                                                                                     |                                                                                     | 0.984                                                                               |                                                                                     |
| Flt Protected           |                                                                                   | 0.996                                                                             |                                                                                   | 0.950                                                                             |                                                                                   |                                                                                   | 0.950                                                                               |                                                                                     |                                                                                     | 0.950                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (prot)       | 0                                                                                 | 1839                                                                              | 1583                                                                              | 1719                                                                              | 1863                                                                              | 1583                                                                              | 1671                                                                                | 1683                                                                                | 0                                                                                   | 1687                                                                                | 1817                                                                                | 0                                                                                   |
| Flt Permitted           |                                                                                   | 0.975                                                                             |                                                                                   | 0.445                                                                             |                                                                                   |                                                                                   | 0.599                                                                               |                                                                                     |                                                                                     | 0.357                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (perm)       | 0                                                                                 | 1800                                                                              | 1583                                                                              | 805                                                                               | 1863                                                                              | 1549                                                                              | 1054                                                                                | 1683                                                                                | 0                                                                                   | 634                                                                                 | 1817                                                                                | 0                                                                                   |
| Right Turn on Red       |                                                                                   |                                                                                   | No                                                                                |                                                                                   |                                                                                   | No                                                                                |                                                                                     |                                                                                     | No                                                                                  |                                                                                     |                                                                                     | No                                                                                  |
| Satd. Flow (RTOR)       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Link Speed (mph)        |                                                                                   | 45                                                                                |                                                                                   |                                                                                   | 45                                                                                |                                                                                   |                                                                                     | 45                                                                                  |                                                                                     |                                                                                     | 45                                                                                  |                                                                                     |
| Link Distance (ft)      |                                                                                   | 1672                                                                              |                                                                                   |                                                                                   | 940                                                                               |                                                                                   |                                                                                     | 486                                                                                 |                                                                                     |                                                                                     | 1502                                                                                |                                                                                     |
| Travel Time (s)         |                                                                                   | 25.3                                                                              |                                                                                   |                                                                                   | 14.2                                                                              |                                                                                   |                                                                                     | 7.4                                                                                 |                                                                                     |                                                                                     | 22.8                                                                                |                                                                                     |
| Confl. Bikes (#/hr)     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Peak Hour Factor        | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                |
| Heavy Vehicles (%)      | 2%                                                                                | 3%                                                                                | 2%                                                                                | 5%                                                                                | 2%                                                                                | 2%                                                                                | 8%                                                                                  | 3%                                                                                  | 2%                                                                                  | 7%                                                                                  | 3%                                                                                  | 2%                                                                                  |
| Adj. Flow (vph)         | 19                                                                                | 241                                                                               | 109                                                                               | 199                                                                               | 80                                                                                | 120                                                                               | 104                                                                                 | 226                                                                                 | 364                                                                                 | 396                                                                                 | 231                                                                                 | 28                                                                                  |
| Shared Lane Traffic (%) |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)   | 0                                                                                 | 260                                                                               | 109                                                                               | 199                                                                               | 80                                                                                | 120                                                                               | 104                                                                                 | 590                                                                                 | 0                                                                                   | 396                                                                                 | 259                                                                                 | 0                                                                                   |
| Turn Type               | Perm                                                                              | NA                                                                                | Perm                                                                              | Perm                                                                              | NA                                                                                | Perm                                                                              | Perm                                                                                | NA                                                                                  |                                                                                     | Perm                                                                                | NA                                                                                  |                                                                                     |
| Protected Phases        |                                                                                   | 4                                                                                 |                                                                                   |                                                                                   | 8                                                                                 |                                                                                   |                                                                                     | 2                                                                                   |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     |
| Permitted Phases        | 4                                                                                 |                                                                                   | 4                                                                                 | 8                                                                                 |                                                                                   | 8                                                                                 | 2                                                                                   |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     |                                                                                     |
| Detector Phase          | 4                                                                                 | 4                                                                                 | 4                                                                                 | 8                                                                                 | 8                                                                                 | 8                                                                                 | 2                                                                                   | 2                                                                                   |                                                                                     | 6                                                                                   | 6                                                                                   |                                                                                     |
| Switch Phase            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)     | 7.0                                                                               | 7.0                                                                               | 7.0                                                                               | 7.0                                                                               | 7.0                                                                               | 7.0                                                                               | 12.0                                                                                | 12.0                                                                                |                                                                                     | 12.0                                                                                | 12.0                                                                                |                                                                                     |
| Minimum Split (s)       | 25.0                                                                              | 25.0                                                                              | 25.0                                                                              | 25.0                                                                              | 25.0                                                                              | 25.0                                                                              | 25.0                                                                                | 25.0                                                                                |                                                                                     | 25.0                                                                                | 25.0                                                                                |                                                                                     |
| Total Split (s)         | 25.0                                                                              | 25.0                                                                              | 25.0                                                                              | 25.0                                                                              | 25.0                                                                              | 25.0                                                                              | 55.0                                                                                | 55.0                                                                                |                                                                                     | 55.0                                                                                | 55.0                                                                                |                                                                                     |
| Total Split (%)         | 31.3%                                                                             | 31.3%                                                                             | 31.3%                                                                             | 31.3%                                                                             | 31.3%                                                                             | 31.3%                                                                             | 68.8%                                                                               | 68.8%                                                                               |                                                                                     | 68.8%                                                                               | 68.8%                                                                               |                                                                                     |
| Maximum Green (s)       | 18.0                                                                              | 18.0                                                                              | 18.0                                                                              | 18.0                                                                              | 18.0                                                                              | 18.0                                                                              | 48.0                                                                                | 48.0                                                                                |                                                                                     | 48.0                                                                                | 48.0                                                                                |                                                                                     |
| Yellow Time (s)         | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                                 | 5.0                                                                                 |                                                                                     | 5.0                                                                                 | 5.0                                                                                 |                                                                                     |
| All-Red Time (s)        | 2.0                                                                               | 2.0                                                                               | 2.0                                                                               | 2.0                                                                               | 2.0                                                                               | 2.0                                                                               | 2.0                                                                                 | 2.0                                                                                 |                                                                                     | 2.0                                                                                 | 2.0                                                                                 |                                                                                     |
| Lost Time Adjust (s)    |                                                                                   | -2.0                                                                              | -2.0                                                                              | -2.0                                                                              | -2.0                                                                              | -2.0                                                                              | -2.0                                                                                | -2.0                                                                                |                                                                                     | -2.0                                                                                | -2.0                                                                                |                                                                                     |
| Total Lost Time (s)     |                                                                                   | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                                 | 5.0                                                                                 |                                                                                     | 5.0                                                                                 | 5.0                                                                                 |                                                                                     |
| Lead/Lag                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lead-Lag Optimize?      |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Vehicle Extension (s)   | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                                 | 3.0                                                                                 |                                                                                     | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |
| Recall Mode             | None                                                                              | None                                                                              | None                                                                              | None                                                                              | None                                                                              | None                                                                              | Min                                                                                 | Min                                                                                 |                                                                                     | Min                                                                                 | Min                                                                                 |                                                                                     |
| Walk Time (s)           | 7.0                                                                               | 7.0                                                                               | 7.0                                                                               | 7.0                                                                               | 7.0                                                                               | 7.0                                                                               | 7.0                                                                                 | 7.0                                                                                 |                                                                                     | 7.0                                                                                 | 7.0                                                                                 |                                                                                     |
| Flash Dont Walk (s)     | 11.0                                                                              | 11.0                                                                              | 11.0                                                                              | 11.0                                                                              | 11.0                                                                              | 11.0                                                                              | 11.0                                                                                | 11.0                                                                                |                                                                                     | 11.0                                                                                | 11.0                                                                                |                                                                                     |
| Pedestrian Calls (#/hr) | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     |
| Act Effect Green (s)    |                                                                                   | 20.0                                                                              | 20.0                                                                              | 20.0                                                                              | 20.0                                                                              | 20.0                                                                              | 50.0                                                                                | 50.0                                                                                |                                                                                     | 50.0                                                                                | 50.0                                                                                |                                                                                     |
| Actuated g/C Ratio      |                                                                                   | 0.25                                                                              | 0.25                                                                              | 0.25                                                                              | 0.25                                                                              | 0.25                                                                              | 0.62                                                                                | 0.62                                                                                |                                                                                     | 0.62                                                                                | 0.62                                                                                |                                                                                     |
| v/c Ratio               |                                                                                   | 0.58                                                                              | 0.28                                                                              | 0.99                                                                              | 0.17                                                                              | 0.31                                                                              | 0.16                                                                                | 0.56                                                                                |                                                                                     | 1.00                                                                                | 0.23                                                                                |                                                                                     |

Lanes, Volumes, Timings  
1: Stallings Rd & Stevens Mill Rd

Stallings Farms TIA  
2027 Build-IMP PM

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
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| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Control Delay           |                                                                                   | 32.3                                                                              | 26.5                                                                              | 95.2                                                                              | 24.8                                                                              | 27.1                                                                              | 7.0                                                                                | 11.3                                                                                |                                                                                     | 64.4                                                                                | 7.2                                                                                 |                                                                                     |
| Queue Delay             |                                                                                   | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                | 0.0                                                                                 |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Delay             |                                                                                   | 32.3                                                                              | 26.5                                                                              | 95.2                                                                              | 24.8                                                                              | 27.1                                                                              | 7.0                                                                                | 11.3                                                                                |                                                                                     | 64.4                                                                                | 7.2                                                                                 |                                                                                     |
| LOS                     |                                                                                   | C                                                                                 | C                                                                                 | F                                                                                 | C                                                                                 | C                                                                                 | A                                                                                  | B                                                                                   |                                                                                     | E                                                                                   | A                                                                                   |                                                                                     |
| Approach Delay          |                                                                                   | 30.6                                                                              |                                                                                   |                                                                                   | 60.6                                                                              |                                                                                   |                                                                                    | 10.6                                                                                |                                                                                     |                                                                                     | 41.8                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | C                                                                                 |                                                                                   |                                                                                   | E                                                                                 |                                                                                   |                                                                                    | B                                                                                   |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |
| Queue Length 50th (ft)  |                                                                                   | 114                                                                               | 44                                                                                | 99                                                                                | 31                                                                                | 49                                                                                | 19                                                                                 | 151                                                                                 |                                                                                     | 176                                                                                 | 50                                                                                  |                                                                                     |
| Queue Length 95th (ft)  |                                                                                   | 189                                                                               | 87                                                                                | #232                                                                              | 66                                                                                | 95                                                                                | 40                                                                                 | 238                                                                                 |                                                                                     | #376                                                                                | 84                                                                                  |                                                                                     |
| Internal Link Dist (ft) |                                                                                   | 1592                                                                              |                                                                                   |                                                                                   | 860                                                                               |                                                                                   |                                                                                    | 406                                                                                 |                                                                                     |                                                                                     | 1422                                                                                |                                                                                     |
| Turn Bay Length (ft)    |                                                                                   |                                                                                   | 100                                                                               | 250                                                                               |                                                                                   | 300                                                                               | 150                                                                                |                                                                                     |                                                                                     | 225                                                                                 |                                                                                     |                                                                                     |
| Base Capacity (vph)     |                                                                                   | 450                                                                               | 395                                                                               | 201                                                                               | 465                                                                               | 387                                                                               | 658                                                                                | 1051                                                                                |                                                                                     | 396                                                                                 | 1135                                                                                |                                                                                     |
| Starvation Cap Reductn  |                                                                                   | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                  | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     |
| Spillback Cap Reductn   |                                                                                   | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                  | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     |
| Storage Cap Reductn     |                                                                                   | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                  | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     |
| Reduced v/c Ratio       |                                                                                   | 0.58                                                                              | 0.28                                                                              | 0.99                                                                              | 0.17                                                                              | 0.31                                                                              | 0.16                                                                               | 0.56                                                                                |                                                                                     | 1.00                                                                                | 0.23                                                                                |                                                                                     |

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 80

Natural Cycle: 80

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.00

Intersection Signal Delay: 33.2

Intersection LOS: C

Intersection Capacity Utilization 89.5%

ICU Level of Service E

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: Stallings Rd & Stevens Mill Rd

|                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |
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| Ø2                                                                                  | Ø4                                                                                  | Ø6                                                                                  | Ø8                                                                                  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |
| 55 s                                                                                | 25 s                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |
| 55 s                                                                                | 25 s                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |

Lanes, Volumes, Timings  
2: Stallings Rd & Sweet Birch Dr

Stallings Farms TIA  
2027 Build-IMP PM

|                                   |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group                        | WBL                                                                               | WBR                                                                               | NBT                                                                               | NBR                                                                               | SBL                                                                               | SBT                                                                               |
| Lane Configurations               |  |  |  |                                                                                   |                                                                                   |  |
| Traffic Volume (vph)              | 25                                                                                | 31                                                                                | 661                                                                               | 42                                                                                | 55                                                                                | 450                                                                               |
| Future Volume (vph)               | 25                                                                                | 31                                                                                | 661                                                                               | 42                                                                                | 55                                                                                | 450                                                                               |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Storage Length (ft)               | 0                                                                                 | 100                                                                               |                                                                                   | 100                                                                               | 100                                                                               |                                                                                   |
| Storage Lanes                     | 1                                                                                 | 1                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |
| Taper Length (ft)                 | 25                                                                                |                                                                                   |                                                                                   |                                                                                   | 100                                                                               |                                                                                   |
| Lane Util. Factor                 | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Frt                               |                                                                                   | 0.850                                                                             | 0.992                                                                             |                                                                                   |                                                                                   |                                                                                   |
| Flt Protected                     | 0.950                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.995                                                                             |
| Satd. Flow (prot)                 | 1770                                                                              | 1583                                                                              | 1831                                                                              | 0                                                                                 | 0                                                                                 | 1822                                                                              |
| Flt Permitted                     | 0.950                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.995                                                                             |
| Satd. Flow (perm)                 | 1770                                                                              | 1583                                                                              | 1831                                                                              | 0                                                                                 | 0                                                                                 | 1822                                                                              |
| Link Speed (mph)                  | 25                                                                                |                                                                                   | 45                                                                                |                                                                                   |                                                                                   | 45                                                                                |
| Link Distance (ft)                | 597                                                                               |                                                                                   | 2030                                                                              |                                                                                   |                                                                                   | 1189                                                                              |
| Travel Time (s)                   | 16.3                                                                              |                                                                                   | 30.8                                                                              |                                                                                   |                                                                                   | 18.0                                                                              |
| Peak Hour Factor                  | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              |
| Heavy Vehicles (%)                | 2%                                                                                | 2%                                                                                | 3%                                                                                | 2%                                                                                | 2%                                                                                | 4%                                                                                |
| Adj. Flow (vph)                   | 28                                                                                | 34                                                                                | 734                                                                               | 47                                                                                | 61                                                                                | 500                                                                               |
| Shared Lane Traffic (%)           |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)             | 28                                                                                | 34                                                                                | 781                                                                               | 0                                                                                 | 0                                                                                 | 561                                                                               |
| Sign Control                      | Stop                                                                              |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Area Type:                        | Other                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Control Type:                     | Unsignalized                                                                      |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization | 77.4%                                                                             |                                                                                   |                                                                                   | ICU Level of Service D                                                            |                                                                                   |                                                                                   |
| Analysis Period (min)             | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |

# HCM Unsignalized Intersection Capacity Analysis

## 2: Stallings Rd & Sweet Birch Dr

Stallings Farms TIA  
2027 Build-IMP PM

|                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|                                   |  |  |  |  |  |  |
| Movement                          | WBL                                                                               | WBR                                                                               | NBT                                                                               | NBR                                                                               | SBL                                                                               | SBT                                                                               |
| Lane Configurations               |  |  |  |                                                                                   |                                                                                   |  |
| Traffic Volume (veh/h)            | 25                                                                                | 31                                                                                | 661                                                                               | 42                                                                                | 55                                                                                | 450                                                                               |
| Future Volume (Veh/h)             | 25                                                                                | 31                                                                                | 661                                                                               | 42                                                                                | 55                                                                                | 450                                                                               |
| Sign Control                      | Stop                                                                              |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              |
| Grade                             | 0%                                                                                |                                                                                   | 0%                                                                                |                                                                                   |                                                                                   | 0%                                                                                |
| Peak Hour Factor                  | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              |
| Hourly flow rate (vph)            | 28                                                                                | 34                                                                                | 734                                                                               | 47                                                                                | 61                                                                                | 500                                                                               |
| Pedestrians                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Width (ft)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Walking Speed (ft/s)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Percent Blockage                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Right turn flare (veh)            |                                                                                   | 4                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Median type                       |                                                                                   |                                                                                   | None                                                                              |                                                                                   |                                                                                   | None                                                                              |
| Median storage veh)               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Upstream signal (ft)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| pX, platoon unblocked             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC, conflicting volume            | 1380                                                                              | 758                                                                               |                                                                                   |                                                                                   | 781                                                                               |                                                                                   |
| vC1, stage 1 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC2, stage 2 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vCu, unblocked vol                | 1380                                                                              | 758                                                                               |                                                                                   |                                                                                   | 781                                                                               |                                                                                   |
| tC, single (s)                    | 6.4                                                                               | 6.2                                                                               |                                                                                   |                                                                                   | 4.1                                                                               |                                                                                   |
| tC, 2 stage (s)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| tF (s)                            | 3.5                                                                               | 3.3                                                                               |                                                                                   |                                                                                   | 2.2                                                                               |                                                                                   |
| p0 queue free %                   | 81                                                                                | 92                                                                                |                                                                                   |                                                                                   | 93                                                                                |                                                                                   |
| cM capacity (veh/h)               | 148                                                                               | 407                                                                               |                                                                                   |                                                                                   | 837                                                                               |                                                                                   |
| Direction, Lane #                 | WB 1                                                                              | NB 1                                                                              | SB 1                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Volume Total                      | 62                                                                                | 781                                                                               | 561                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Volume Left                       | 28                                                                                | 0                                                                                 | 61                                                                                |                                                                                   |                                                                                   |                                                                                   |
| Volume Right                      | 34                                                                                | 47                                                                                | 0                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| cSH                               | 327                                                                               | 1700                                                                              | 837                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Volume to Capacity                | 0.19                                                                              | 0.46                                                                              | 0.07                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Queue Length 95th (ft)            | 17                                                                                | 0                                                                                 | 6                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| Control Delay (s)                 | 23.8                                                                              | 0.0                                                                               | 1.9                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Lane LOS                          | C                                                                                 |                                                                                   | A                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| Approach Delay (s)                | 23.8                                                                              | 0.0                                                                               | 1.9                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Approach LOS                      | C                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Average Delay                     |                                                                                   | 1.8                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization |                                                                                   | 77.4%                                                                             |                                                                                   | ICU Level of Service                                                              |                                                                                   | D                                                                                 |
| Analysis Period (min)             |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |

Lanes, Volumes, Timings  
8: Oakspring Rd & Stevens Mill Rd

Stallings Farms TIA  
2027 Build-IMP PM

|                                   |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group                        | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | NBL                                                                               | NBR                                                                               |
| Lane Configurations               |  |  |                                                                                   |  |  |  |
| Traffic Volume (vph)              | 567                                                                               | 410                                                                               | 103                                                                               | 295                                                                               | 177                                                                               | 119                                                                               |
| Future Volume (vph)               | 567                                                                               | 410                                                                               | 103                                                                               | 295                                                                               | 177                                                                               | 119                                                                               |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Storage Length (ft)               |                                                                                   | 100                                                                               | 175                                                                               |                                                                                   | 0                                                                                 | 100                                                                               |
| Storage Lanes                     |                                                                                   | 1                                                                                 | 0                                                                                 |                                                                                   | 1                                                                                 | 1                                                                                 |
| Taper Length (ft)                 |                                                                                   |                                                                                   | 100                                                                               |                                                                                   | 25                                                                                |                                                                                   |
| Lane Util. Factor                 | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Frt                               |                                                                                   | 0.850                                                                             |                                                                                   |                                                                                   |                                                                                   | 0.850                                                                             |
| Flt Protected                     |                                                                                   |                                                                                   |                                                                                   | 0.987                                                                             | 0.950                                                                             |                                                                                   |
| Satd. Flow (prot)                 | 1863                                                                              | 1524                                                                              | 0                                                                                 | 1794                                                                              | 1770                                                                              | 1583                                                                              |
| Flt Permitted                     |                                                                                   |                                                                                   |                                                                                   | 0.987                                                                             | 0.950                                                                             |                                                                                   |
| Satd. Flow (perm)                 | 1863                                                                              | 1524                                                                              | 0                                                                                 | 1794                                                                              | 1770                                                                              | 1583                                                                              |
| Link Speed (mph)                  | 45                                                                                |                                                                                   |                                                                                   | 45                                                                                | 35                                                                                |                                                                                   |
| Link Distance (ft)                | 940                                                                               |                                                                                   |                                                                                   | 594                                                                               | 438                                                                               |                                                                                   |
| Travel Time (s)                   | 14.2                                                                              |                                                                                   |                                                                                   | 9.0                                                                               | 8.5                                                                               |                                                                                   |
| Peak Hour Factor                  | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              |
| Heavy Vehicles (%)                | 2%                                                                                | 6%                                                                                | 6%                                                                                | 4%                                                                                | 2%                                                                                | 2%                                                                                |
| Adj. Flow (vph)                   | 630                                                                               | 456                                                                               | 114                                                                               | 328                                                                               | 197                                                                               | 132                                                                               |
| Shared Lane Traffic (%)           |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)             | 630                                                                               | 456                                                                               | 0                                                                                 | 442                                                                               | 197                                                                               | 132                                                                               |
| Sign Control                      | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              | Stop                                                                              |                                                                                   |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Area Type:                        | Other                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Control Type:                     | Unsignalized                                                                      |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization | 70.9%                                                                             |                                                                                   |                                                                                   | ICU Level of Service C                                                            |                                                                                   |                                                                                   |
| Analysis Period (min)             | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |

# HCM Unsignalized Intersection Capacity Analysis

## 8: Oakspring Rd & Stevens Mill Rd

Stallings Farms TIA  
2027 Build-IMP PM

|                                   |      |      |       |                      |      |      |
|-----------------------------------|------|------|-------|----------------------|------|------|
|                                   | →    | ↘    | ↙     | ←                    | ↖    | ↗    |
| Movement                          | EBT  | EBR  | WBL   | WBT                  | NBL  | NBR  |
| Lane Configurations               | ↑    | ↗    |       | ↖                    | ↗    | ↗    |
| Traffic Volume (veh/h)            | 567  | 410  | 103   | 295                  | 177  | 119  |
| Future Volume (Veh/h)             | 567  | 410  | 103   | 295                  | 177  | 119  |
| Sign Control                      | Free |      |       | Free                 | Stop |      |
| Grade                             | 0%   |      |       | 0%                   | 0%   |      |
| Peak Hour Factor                  | 0.90 | 0.90 | 0.90  | 0.90                 | 0.90 | 0.90 |
| Hourly flow rate (vph)            | 630  | 456  | 114   | 328                  | 197  | 132  |
| Pedestrians                       |      |      |       |                      |      |      |
| Lane Width (ft)                   |      |      |       |                      |      |      |
| Walking Speed (ft/s)              |      |      |       |                      |      |      |
| Percent Blockage                  |      |      |       |                      |      |      |
| Right turn flare (veh)            |      |      |       |                      |      | 4    |
| Median type                       | None |      |       | None                 |      |      |
| Median storage veh                |      |      |       |                      |      |      |
| Upstream signal (ft)              | 940  |      |       |                      |      |      |
| pX, platoon unblocked             |      |      |       |                      |      |      |
| vC, conflicting volume            |      |      | 1086  |                      | 1186 | 630  |
| vC1, stage 1 conf vol             |      |      |       |                      |      |      |
| vC2, stage 2 conf vol             |      |      |       |                      |      |      |
| vCu, unblocked vol                |      |      | 1086  |                      | 1186 | 630  |
| tC, single (s)                    |      |      | 4.2   |                      | 6.4  | 6.2  |
| tC, 2 stage (s)                   |      |      |       |                      |      |      |
| tF (s)                            |      |      | 2.3   |                      | 3.5  | 3.3  |
| p0 queue free %                   |      |      | 82    |                      | 0    | 73   |
| cM capacity (veh/h)               |      |      | 628   |                      | 171  | 482  |
| Direction, Lane #                 | EB 1 | EB 2 | WB 1  | NB 1                 |      |      |
| Volume Total                      | 630  | 456  | 442   | 329                  |      |      |
| Volume Left                       | 0    | 0    | 114   | 197                  |      |      |
| Volume Right                      | 0    | 456  | 0     | 132                  |      |      |
| cSH                               | 1700 | 1700 | 628   | 252                  |      |      |
| Volume to Capacity                | 0.37 | 0.27 | 0.18  | 1.30                 |      |      |
| Queue Length 95th (ft)            | 0    | 0    | 16    | 423                  |      |      |
| Control Delay (s)                 | 0.0  | 0.0  | 5.1   | 202.3                |      |      |
| Lane LOS                          |      |      | A     | F                    |      |      |
| Approach Delay (s)                | 0.0  |      | 5.1   | 202.3                |      |      |
| Approach LOS                      |      |      |       | F                    |      |      |
| Intersection Summary              |      |      |       |                      |      |      |
| Average Delay                     |      |      | 37.0  |                      |      |      |
| Intersection Capacity Utilization |      |      | 70.9% | ICU Level of Service |      | C    |
| Analysis Period (min)             |      |      | 15    |                      |      |      |



## 2032 Build-out Conditions



Lanes, Volumes, Timings  
1: Stallings Rd & Stevens Mill Rd

Stallings Farms TIA  
2032 Build AM

|                         |  |       |       |       |       |       |       |       |      |       |       |      |
|-------------------------|------------------------------------------------------------------------------------|-------|-------|-------|-------|-------|-------|-------|------|-------|-------|------|
| Lane Group              | EBL                                                                                | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR  | SBL   | SBT   | SBR  |
| Lane Configurations     |                                                                                    |       |       |       |       |       |       |       |      |       |       |      |
| Traffic Volume (vph)    | 45                                                                                 | 91    | 134   | 301   | 265   | 436   | 80    | 196   | 149  | 403   | 272   | 51   |
| Future Volume (vph)     | 45                                                                                 | 91    | 134   | 301   | 265   | 436   | 80    | 196   | 149  | 403   | 272   | 51   |
| Ideal Flow (vphpl)      | 1900                                                                               | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900 | 1900  | 1900  | 1900 |
| Storage Length (ft)     | 0                                                                                  |       | 100   | 250   |       | 300   | 150   |       | 250  | 225   |       | 0    |
| Storage Lanes           | 0                                                                                  |       | 1     | 1     |       | 1     | 1     |       | 0    | 1     |       | 0    |
| Taper Length (ft)       | 25                                                                                 |       |       | 100   |       |       | 100   |       |      | 100   |       |      |
| Lane Util. Factor       | 1.00                                                                               | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00 |
| Ped Bike Factor         |                                                                                    |       | 0.97  | 1.00  |       |       | 1.00  |       |      |       | 1.00  |      |
| Frt                     |                                                                                    |       | 0.850 |       |       | 0.850 |       | 0.931 |      |       | 0.980 |      |
| Flt Protected           |                                                                                    | 0.983 |       | 0.950 |       |       | 0.950 |       |      | 0.950 |       |      |
| Satd. Flow (prot)       | 0                                                                                  | 1789  | 1538  | 1770  | 1863  | 1553  | 1770  | 1664  | 0    | 1752  | 1801  | 0    |
| Flt Permitted           |                                                                                    | 0.716 |       | 0.646 |       |       | 0.415 |       |      | 0.442 |       |      |
| Satd. Flow (perm)       | 0                                                                                  | 1303  | 1498  | 1197  | 1863  | 1553  | 771   | 1664  | 0    | 815   | 1801  | 0    |
| Right Turn on Red       |                                                                                    |       | No    |       |       | No    |       |       | No   |       |       | No   |
| Satd. Flow (RTOR)       |                                                                                    |       |       |       |       |       |       |       |      |       |       |      |
| Link Speed (mph)        |                                                                                    | 45    |       |       | 45    |       |       | 45    |      |       | 45    |      |
| Link Distance (ft)      |                                                                                    | 1672  |       |       | 940   |       |       | 447   |      |       | 1502  |      |
| Travel Time (s)         |                                                                                    | 25.3  |       |       | 14.2  |       |       | 6.8   |      |       | 22.8  |      |
| Confl. Peds. (#/hr)     |                                                                                    |       | 3     | 3     |       |       | 3     |       |      |       |       | 3    |
| Peak Hour Factor        | 0.77                                                                               | 0.82  | 0.74  | 0.82  | 0.80  | 0.72  | 0.82  | 0.86  | 0.77 | 0.69  | 0.69  | 0.84 |
| Heavy Vehicles (%)      | 9%                                                                                 | 2%    | 5%    | 2%    | 2%    | 4%    | 2%    | 4%    | 9%   | 3%    | 3%    | 3%   |
| Adj. Flow (vph)         | 58                                                                                 | 111   | 181   | 367   | 331   | 606   | 98    | 228   | 194  | 584   | 394   | 61   |
| Shared Lane Traffic (%) |                                                                                    |       |       |       |       |       |       |       |      |       |       |      |
| Lane Group Flow (vph)   | 0                                                                                  | 169   | 181   | 367   | 331   | 606   | 98    | 422   | 0    | 584   | 455   | 0    |
| Turn Type               | Perm                                                                               | NA    | Perm  | Perm  | NA    | Perm  | Perm  | NA    |      | Perm  | NA    |      |
| Protected Phases        |                                                                                    | 4     |       |       | 8     |       |       | 2     |      |       | 6     |      |
| Permitted Phases        | 4                                                                                  |       | 4     | 8     |       | 8     | 2     |       |      | 6     |       |      |
| Detector Phase          | 4                                                                                  | 4     | 4     | 8     | 8     | 8     | 2     | 2     |      | 6     | 6     |      |
| Switch Phase            |                                                                                    |       |       |       |       |       |       |       |      |       |       |      |
| Minimum Initial (s)     | 7.0                                                                                | 7.0   | 7.0   | 7.0   | 7.0   | 7.0   | 12.0  | 12.0  |      | 12.0  | 12.0  |      |
| Minimum Split (s)       | 25.0                                                                               | 25.0  | 25.0  | 25.0  | 25.0  | 25.0  | 25.0  | 25.0  |      | 25.0  | 25.0  |      |
| Total Split (s)         | 30.0                                                                               | 30.0  | 30.0  | 30.0  | 30.0  | 30.0  | 45.0  | 45.0  |      | 45.0  | 45.0  |      |
| Total Split (%)         | 40.0%                                                                              | 40.0% | 40.0% | 40.0% | 40.0% | 40.0% | 60.0% | 60.0% |      | 60.0% | 60.0% |      |
| Maximum Green (s)       | 23.0                                                                               | 23.0  | 23.0  | 23.0  | 23.0  | 23.0  | 38.0  | 38.0  |      | 38.0  | 38.0  |      |
| Yellow Time (s)         | 5.0                                                                                | 5.0   | 5.0   | 5.0   | 5.0   | 5.0   | 5.0   | 5.0   |      | 5.0   | 5.0   |      |
| All-Red Time (s)        | 2.0                                                                                | 2.0   | 2.0   | 2.0   | 2.0   | 2.0   | 2.0   | 2.0   |      | 2.0   | 2.0   |      |
| Lost Time Adjust (s)    |                                                                                    | -2.0  | -2.0  | -2.0  | -2.0  | -2.0  | -2.0  | -2.0  |      | -2.0  | -2.0  |      |
| Total Lost Time (s)     |                                                                                    | 5.0   | 5.0   | 5.0   | 5.0   | 5.0   | 5.0   | 5.0   |      | 5.0   | 5.0   |      |
| Lead/Lag                |                                                                                    |       |       |       |       |       |       |       |      |       |       |      |
| Lead-Lag Optimize?      |                                                                                    |       |       |       |       |       |       |       |      |       |       |      |
| Vehicle Extension (s)   | 3.0                                                                                | 3.0   | 3.0   | 3.0   | 3.0   | 3.0   | 3.0   | 3.0   |      | 3.0   | 3.0   |      |
| Recall Mode             | None                                                                               | None  | None  | None  | None  | None  | Min   | Min   |      | Min   | Min   |      |
| Walk Time (s)           | 7.0                                                                                | 7.0   | 7.0   | 7.0   | 7.0   | 7.0   | 7.0   | 7.0   |      | 7.0   | 7.0   |      |
| Flash Dont Walk (s)     | 11.0                                                                               | 11.0  | 11.0  | 11.0  | 11.0  | 11.0  | 11.0  | 11.0  |      | 11.0  | 11.0  |      |
| Pedestrian Calls (#/hr) | 0                                                                                  | 0     | 0     | 0     | 0     | 0     | 0     | 0     |      | 0     | 0     |      |
| Act Effct Green (s)     |                                                                                    | 25.0  | 25.0  | 25.0  | 25.0  | 25.0  | 40.0  | 40.0  |      | 40.0  | 40.0  |      |
| Actuated g/C Ratio      |                                                                                    | 0.33  | 0.33  | 0.33  | 0.33  | 0.33  | 0.53  | 0.53  |      | 0.53  | 0.53  |      |
| v/c Ratio               |                                                                                    | 0.39  | 0.36  | 0.92  | 0.53  | 1.17  | 0.24  | 0.48  |      | 1.35  | 0.47  |      |

Lanes, Volumes, Timings  
1: Stallings Rd & Stevens Mill Rd

Stallings Farms TIA  
2032 Build AM

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Control Delay           |                                                                                   | 22.5                                                                              | 21.6                                                                              | 55.9                                                                              | 24.1                                                                              | 123.2                                                                             | 11.3                                                                               | 13.2                                                                                |                                                                                     | 191.8                                                                               | 13.0                                                                                |                                                                                     |
| Queue Delay             |                                                                                   | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                | 0.0                                                                                 |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Delay             |                                                                                   | 22.5                                                                              | 21.6                                                                              | 55.9                                                                              | 24.1                                                                              | 123.2                                                                             | 11.3                                                                               | 13.2                                                                                |                                                                                     | 191.8                                                                               | 13.0                                                                                |                                                                                     |
| LOS                     |                                                                                   | C                                                                                 | C                                                                                 | E                                                                                 | C                                                                                 | F                                                                                 | B                                                                                  | B                                                                                   |                                                                                     | F                                                                                   | B                                                                                   |                                                                                     |
| Approach Delay          |                                                                                   | 22.0                                                                              |                                                                                   |                                                                                   | 79.1                                                                              |                                                                                   |                                                                                    | 12.8                                                                                |                                                                                     |                                                                                     | 113.5                                                                               |                                                                                     |
| Approach LOS            |                                                                                   | C                                                                                 |                                                                                   |                                                                                   | E                                                                                 |                                                                                   |                                                                                    | B                                                                                   |                                                                                     |                                                                                     | F                                                                                   |                                                                                     |
| Queue Length 50th (ft)  |                                                                                   | 59                                                                                | 63                                                                                | 162                                                                               | 123                                                                               | ~343                                                                              | 23                                                                                 | 114                                                                                 |                                                                                     | ~362                                                                                | 123                                                                                 |                                                                                     |
| Queue Length 95th (ft)  |                                                                                   | 99                                                                                | 90                                                                                | #277                                                                              | 171                                                                               | #375                                                                              | 45                                                                                 | 172                                                                                 |                                                                                     | #371                                                                                | 132                                                                                 |                                                                                     |
| Internal Link Dist (ft) |                                                                                   | 1592                                                                              |                                                                                   |                                                                                   | 860                                                                               |                                                                                   |                                                                                    | 367                                                                                 |                                                                                     |                                                                                     | 1422                                                                                |                                                                                     |
| Turn Bay Length (ft)    |                                                                                   |                                                                                   | 100                                                                               | 250                                                                               |                                                                                   | 300                                                                               | 150                                                                                |                                                                                     |                                                                                     | 225                                                                                 |                                                                                     |                                                                                     |
| Base Capacity (vph)     |                                                                                   | 434                                                                               | 499                                                                               | 399                                                                               | 621                                                                               | 517                                                                               | 411                                                                                | 887                                                                                 |                                                                                     | 434                                                                                 | 960                                                                                 |                                                                                     |
| Starvation Cap Reductn  |                                                                                   | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                  | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     |
| Spillback Cap Reductn   |                                                                                   | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                  | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     |
| Storage Cap Reductn     |                                                                                   | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                  | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     |
| Reduced v/c Ratio       |                                                                                   | 0.39                                                                              | 0.36                                                                              | 0.92                                                                              | 0.53                                                                              | 1.17                                                                              | 0.24                                                                               | 0.48                                                                                |                                                                                     | 1.35                                                                                | 0.47                                                                                |                                                                                     |

Intersection Summary

Area Type: Other

Cycle Length: 75

Actuated Cycle Length: 75

Natural Cycle: 75

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.35

Intersection Signal Delay: 73.3

Intersection LOS: E

Intersection Capacity Utilization 83.1%

ICU Level of Service E

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: Stallings Rd & Stevens Mill Rd

|                                                                                        |                                                                                        |
|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
|  Ø2 |  Ø4 |
| 45 s                                                                                   | 30 s                                                                                   |
|  Ø6 |  Ø8 |
| 45 s                                                                                   | 30 s                                                                                   |

Lanes, Volumes, Timings  
2: Stallings Rd & Sweet Birch Dr

Stallings Farms TIA  
2032 Build AM

|                                         |  |  |  |  |  |  |
|-----------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group                              | WBL                                                                               | WBR                                                                               | NBT                                                                               | NBR                                                                               | SBL                                                                               | SBT                                                                               |
| Lane Configurations                     |  |  |  |                                                                                   |                                                                                   |  |
| Traffic Volume (vph)                    | 63                                                                                | 39                                                                                | 384                                                                               | 13                                                                                | 22                                                                                | 751                                                                               |
| Future Volume (vph)                     | 63                                                                                | 39                                                                                | 384                                                                               | 13                                                                                | 22                                                                                | 751                                                                               |
| Ideal Flow (vphpl)                      | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Storage Length (ft)                     | 0                                                                                 | 100                                                                               |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |
| Storage Lanes                           | 1                                                                                 | 1                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |
| Taper Length (ft)                       | 25                                                                                |                                                                                   |                                                                                   |                                                                                   | 25                                                                                |                                                                                   |
| Lane Util. Factor                       | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Frt                                     |                                                                                   | 0.850                                                                             | 0.996                                                                             |                                                                                   |                                                                                   |                                                                                   |
| Flt Protected                           | 0.950                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.998                                                                             |
| Satd. Flow (prot)                       | 1770                                                                              | 1583                                                                              | 1788                                                                              | 0                                                                                 | 0                                                                                 | 1842                                                                              |
| Flt Permitted                           | 0.950                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.998                                                                             |
| Satd. Flow (perm)                       | 1770                                                                              | 1583                                                                              | 1788                                                                              | 0                                                                                 | 0                                                                                 | 1842                                                                              |
| Link Speed (mph)                        | 25                                                                                |                                                                                   | 45                                                                                |                                                                                   |                                                                                   | 45                                                                                |
| Link Distance (ft)                      | 597                                                                               |                                                                                   | 2030                                                                              |                                                                                   |                                                                                   | 1224                                                                              |
| Travel Time (s)                         | 16.3                                                                              |                                                                                   | 30.8                                                                              |                                                                                   |                                                                                   | 18.5                                                                              |
| Peak Hour Factor                        | 0.90                                                                              | 0.90                                                                              | 0.82                                                                              | 0.80                                                                              | 0.56                                                                              | 0.63                                                                              |
| Heavy Vehicles (%)                      | 2%                                                                                | 2%                                                                                | 6%                                                                                | 2%                                                                                | 2%                                                                                | 3%                                                                                |
| Adj. Flow (vph)                         | 70                                                                                | 43                                                                                | 468                                                                               | 16                                                                                | 39                                                                                | 1192                                                                              |
| Shared Lane Traffic (%)                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)                   | 70                                                                                | 43                                                                                | 484                                                                               | 0                                                                                 | 0                                                                                 | 1231                                                                              |
| Sign Control                            | Stop                                                                              |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              |
| <b>Intersection Summary</b>             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Area Type:                              | Other                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Control Type:                           | Unsignalized                                                                      |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization 67.4% | ICU Level of Service C                                                            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Analysis Period (min) 15                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |

# HCM Unsignalized Intersection Capacity Analysis

## 2: Stallings Rd & Sweet Birch Dr

Stallings Farms TIA  
2032 Build AM

|                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|                                   |  |  |  |  |  |  |
| Movement                          | WBL                                                                               | WBR                                                                               | NBT                                                                               | NBR                                                                               | SBL                                                                               | SBT                                                                               |
| Lane Configurations               |  |  |  |                                                                                   |                                                                                   |  |
| Traffic Volume (veh/h)            | 63                                                                                | 39                                                                                | 384                                                                               | 13                                                                                | 22                                                                                | 751                                                                               |
| Future Volume (Veh/h)             | 63                                                                                | 39                                                                                | 384                                                                               | 13                                                                                | 22                                                                                | 751                                                                               |
| Sign Control                      | Stop                                                                              |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              |
| Grade                             | 0%                                                                                |                                                                                   | 0%                                                                                |                                                                                   |                                                                                   | 0%                                                                                |
| Peak Hour Factor                  | 0.90                                                                              | 0.90                                                                              | 0.82                                                                              | 0.80                                                                              | 0.56                                                                              | 0.63                                                                              |
| Hourly flow rate (vph)            | 70                                                                                | 43                                                                                | 468                                                                               | 16                                                                                | 39                                                                                | 1192                                                                              |
| Pedestrians                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Width (ft)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Walking Speed (ft/s)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Percent Blockage                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Right turn flare (veh)            |                                                                                   | 4                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Median type                       |                                                                                   |                                                                                   | None                                                                              |                                                                                   |                                                                                   | None                                                                              |
| Median storage veh)               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Upstream signal (ft)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| pX, platoon unblocked             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC, conflicting volume            | 1746                                                                              | 476                                                                               |                                                                                   |                                                                                   | 484                                                                               |                                                                                   |
| vC1, stage 1 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC2, stage 2 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vCu, unblocked vol                | 1746                                                                              | 476                                                                               |                                                                                   |                                                                                   | 484                                                                               |                                                                                   |
| tC, single (s)                    | 6.4                                                                               | 6.2                                                                               |                                                                                   |                                                                                   | 4.1                                                                               |                                                                                   |
| tC, 2 stage (s)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| tF (s)                            | 3.5                                                                               | 3.3                                                                               |                                                                                   |                                                                                   | 2.2                                                                               |                                                                                   |
| p0 queue free %                   | 23                                                                                | 93                                                                                |                                                                                   |                                                                                   | 96                                                                                |                                                                                   |
| cM capacity (veh/h)               | 91                                                                                | 589                                                                               |                                                                                   |                                                                                   | 1079                                                                              |                                                                                   |
| Direction, Lane #                 | WB 1                                                                              | NB 1                                                                              | SB 1                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Volume Total                      | 113                                                                               | 484                                                                               | 1231                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Volume Left                       | 70                                                                                | 0                                                                                 | 39                                                                                |                                                                                   |                                                                                   |                                                                                   |
| Volume Right                      | 43                                                                                | 16                                                                                | 0                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| cSH                               | 147                                                                               | 1700                                                                              | 1079                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Volume to Capacity                | 0.77                                                                              | 0.28                                                                              | 0.04                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Queue Length 95th (ft)            | 118                                                                               | 0                                                                                 | 3                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| Control Delay (s)                 | 78.5                                                                              | 0.0                                                                               | 1.3                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Lane LOS                          | F                                                                                 |                                                                                   | A                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| Approach Delay (s)                | 78.5                                                                              | 0.0                                                                               | 1.3                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Approach LOS                      | F                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Average Delay                     |                                                                                   | 5.7                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization |                                                                                   | 67.4%                                                                             |                                                                                   | ICU Level of Service                                                              |                                                                                   | C                                                                                 |
| Analysis Period (min)             |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |

Lanes, Volumes, Timings  
3: Nouvelle Dr & Sweet Birch Dr

Stallings Farms TIA  
2032 Build AM

|                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|                                   |  |  |  |  |  |  |
| Lane Group                        | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | NBL                                                                               | NBR                                                                               |
| Lane Configurations               |  |                                                                                   |                                                                                   |  |  |                                                                                   |
| Traffic Volume (vph)              | 31                                                                                | 5                                                                                 | 4                                                                                 | 92                                                                                | 11                                                                                | 4                                                                                 |
| Future Volume (vph)               | 31                                                                                | 5                                                                                 | 4                                                                                 | 92                                                                                | 11                                                                                | 4                                                                                 |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Lane Util. Factor                 | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Frt                               | 0.980                                                                             |                                                                                   |                                                                                   |                                                                                   | 0.966                                                                             |                                                                                   |
| Flt Protected                     |                                                                                   |                                                                                   |                                                                                   | 0.998                                                                             | 0.964                                                                             |                                                                                   |
| Satd. Flow (prot)                 | 1825                                                                              | 0                                                                                 | 0                                                                                 | 1859                                                                              | 1735                                                                              | 0                                                                                 |
| Flt Permitted                     |                                                                                   |                                                                                   |                                                                                   | 0.998                                                                             | 0.964                                                                             |                                                                                   |
| Satd. Flow (perm)                 | 1825                                                                              | 0                                                                                 | 0                                                                                 | 1859                                                                              | 1735                                                                              | 0                                                                                 |
| Link Speed (mph)                  | 25                                                                                |                                                                                   |                                                                                   | 25                                                                                | 25                                                                                |                                                                                   |
| Link Distance (ft)                | 597                                                                               |                                                                                   |                                                                                   | 333                                                                               | 1037                                                                              |                                                                                   |
| Travel Time (s)                   | 16.3                                                                              |                                                                                   |                                                                                   | 9.1                                                                               | 28.3                                                                              |                                                                                   |
| Peak Hour Factor                  | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              |
| Adj. Flow (vph)                   | 34                                                                                | 6                                                                                 | 4                                                                                 | 102                                                                               | 12                                                                                | 4                                                                                 |
| Shared Lane Traffic (%)           |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)             | 40                                                                                | 0                                                                                 | 0                                                                                 | 106                                                                               | 16                                                                                | 0                                                                                 |
| Sign Control                      | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              | Stop                                                                              |                                                                                   |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Area Type:                        | Other                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Control Type:                     | Unsignalized                                                                      |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization | 18.1%                                                                             |                                                                                   |                                                                                   | ICU Level of Service A                                                            |                                                                                   |                                                                                   |
| Analysis Period (min)             | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |

# HCM Unsignalized Intersection Capacity Analysis

## 3: Nouvelle Dr & Sweet Birch Dr

Stallings Farms TIA  
2032 Build AM

|                                   |      |       |                      |      |      |      |
|-----------------------------------|------|-------|----------------------|------|------|------|
|                                   | →    | ↘     | ↙                    | ←    | ↖    | ↗    |
| Movement                          | EBT  | EBR   | WBL                  | WBT  | NBL  | NBR  |
| Lane Configurations               | ↶    |       |                      | ↷    | ↶    | ↷    |
| Traffic Volume (veh/h)            | 31   | 5     | 4                    | 92   | 11   | 4    |
| Future Volume (Veh/h)             | 31   | 5     | 4                    | 92   | 11   | 4    |
| Sign Control                      | Free |       |                      | Free | Stop |      |
| Grade                             | 0%   |       |                      | 0%   | 0%   |      |
| Peak Hour Factor                  | 0.90 | 0.90  | 0.90                 | 0.90 | 0.90 | 0.90 |
| Hourly flow rate (vph)            | 34   | 6     | 4                    | 102  | 12   | 4    |
| Pedestrians                       |      |       |                      |      |      |      |
| Lane Width (ft)                   |      |       |                      |      |      |      |
| Walking Speed (ft/s)              |      |       |                      |      |      |      |
| Percent Blockage                  |      |       |                      |      |      |      |
| Right turn flare (veh)            |      |       |                      |      |      |      |
| Median type                       | None |       |                      | None |      |      |
| Median storage veh                |      |       |                      |      |      |      |
| Upstream signal (ft)              |      |       |                      |      |      |      |
| pX, platoon unblocked             |      |       |                      |      |      |      |
| vC, conflicting volume            |      |       | 40                   |      | 147  | 37   |
| vC1, stage 1 conf vol             |      |       |                      |      |      |      |
| vC2, stage 2 conf vol             |      |       |                      |      |      |      |
| vCu, unblocked vol                |      |       | 40                   |      | 147  | 37   |
| tC, single (s)                    |      |       | 4.1                  |      | 6.4  | 6.2  |
| tC, 2 stage (s)                   |      |       |                      |      |      |      |
| tF (s)                            |      |       | 2.2                  |      | 3.5  | 3.3  |
| p0 queue free %                   |      |       | 100                  |      | 99   | 100  |
| cM capacity (veh/h)               |      |       | 1570                 |      | 843  | 1035 |
| Direction, Lane #                 | EB 1 | WB 1  | NB 1                 |      |      |      |
| Volume Total                      | 40   | 106   | 16                   |      |      |      |
| Volume Left                       | 0    | 4     | 12                   |      |      |      |
| Volume Right                      | 6    | 0     | 4                    |      |      |      |
| cSH                               | 1700 | 1570  | 884                  |      |      |      |
| Volume to Capacity                | 0.02 | 0.00  | 0.02                 |      |      |      |
| Queue Length 95th (ft)            | 0    | 0     | 1                    |      |      |      |
| Control Delay (s)                 | 0.0  | 0.3   | 9.1                  |      |      |      |
| Lane LOS                          |      | A     | A                    |      |      |      |
| Approach Delay (s)                | 0.0  | 0.3   | 9.1                  |      |      |      |
| Approach LOS                      |      |       | A                    |      |      |      |
| Intersection Summary              |      |       |                      |      |      |      |
| Average Delay                     |      | 1.1   |                      |      |      |      |
| Intersection Capacity Utilization |      | 18.1% | ICU Level of Service | A    |      |      |
| Analysis Period (min)             |      | 15    |                      |      |      |      |



Lanes, Volumes, Timings  
4: Stallings Rd & Monroe Expressway WB Ramp

Stallings Farms TIA

2032 Build AM

|                         |  |      |      |                                                                                   |                                                                                   |      |                                                                                    |                                                                                     |      |      |                                                                                     |      |
|-------------------------|------------------------------------------------------------------------------------|------|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------|------|-------------------------------------------------------------------------------------|------|
| Lane Group              | EBL                                                                                | EBT  | EBR  | WBL                                                                               | WBT                                                                               | WBR  | NBL                                                                                | NBT                                                                                 | NBR  | SBL  | SBT                                                                                 | SBR  |
| Lane Configurations     |                                                                                    |      |      |  |  |      |  |  |      |      |  |      |
| Traffic Volume (vph)    | 0                                                                                  | 0    | 0    | 308                                                                               | 142                                                                               | 198  | 700                                                                                | 376                                                                                 | 0    | 0    | 535                                                                                 | 279  |
| Future Volume (vph)     | 0                                                                                  | 0    | 0    | 308                                                                               | 142                                                                               | 198  | 700                                                                                | 376                                                                                 | 0    | 0    | 535                                                                                 | 279  |
| Ideal Flow (vphpl)      | 1900                                                                               | 1900 | 1900 | 1900                                                                              | 1900                                                                              | 1900 | 1900                                                                               | 1900                                                                                | 1900 | 1900 | 1900                                                                                | 1900 |
| Storage Length (ft)     | 0                                                                                  |      | 0    | 325                                                                               |                                                                                   | 50   | 0                                                                                  |                                                                                     | 0    | 200  |                                                                                     | 200  |
| Storage Lanes           | 0                                                                                  |      | 0    | 1                                                                                 |                                                                                   | 0    | 2                                                                                  |                                                                                     | 0    | 0    |                                                                                     | 2    |
| Taper Length (ft)       | 25                                                                                 |      |      | 100                                                                               |                                                                                   |      | 25                                                                                 |                                                                                     |      | 100  |                                                                                     |      |
| Lane Util. Factor       | 1.00                                                                               | 1.00 | 1.00 | 1.00                                                                              | 0.95                                                                              | 0.95 | 0.97                                                                               | 0.95                                                                                | 1.00 | 1.00 | 0.86                                                                                | 0.86 |
| Frt                     |                                                                                    |      |      |                                                                                   | 0.914                                                                             |      |                                                                                    |                                                                                     |      |      | 0.951                                                                               |      |
| Flt Protected           |                                                                                    |      |      | 0.950                                                                             |                                                                                   |      | 0.950                                                                              |                                                                                     |      |      |                                                                                     |      |
| Satd. Flow (prot)       | 0                                                                                  | 0    | 0    | 1719                                                                              | 3186                                                                              | 0    | 3273                                                                               | 3343                                                                                | 0    | 0    | 6036                                                                                | 0    |
| Flt Permitted           |                                                                                    |      |      | 0.950                                                                             |                                                                                   |      | 0.950                                                                              |                                                                                     |      |      |                                                                                     |      |
| Satd. Flow (perm)       | 0                                                                                  | 0    | 0    | 1719                                                                              | 3186                                                                              | 0    | 3273                                                                               | 3343                                                                                | 0    | 0    | 6036                                                                                | 0    |
| Right Turn on Red       |                                                                                    |      | No   |                                                                                   |                                                                                   | No   |                                                                                    |                                                                                     | No   |      |                                                                                     | No   |
| Satd. Flow (RTOR)       |                                                                                    |      |      |                                                                                   |                                                                                   |      |                                                                                    |                                                                                     |      |      |                                                                                     |      |
| Link Speed (mph)        |                                                                                    | 30   |      |                                                                                   | 45                                                                                |      |                                                                                    | 35                                                                                  |      |      | 45                                                                                  |      |
| Link Distance (ft)      |                                                                                    | 1788 |      |                                                                                   | 2381                                                                              |      |                                                                                    | 198                                                                                 |      |      | 998                                                                                 |      |
| Travel Time (s)         |                                                                                    | 40.6 |      |                                                                                   | 36.1                                                                              |      |                                                                                    | 3.9                                                                                 |      |      | 15.1                                                                                |      |
| Peak Hour Factor        | 0.90                                                                               | 0.90 | 0.90 | 0.87                                                                              | 0.81                                                                              | 0.85 | 0.94                                                                               | 0.84                                                                                | 0.90 | 0.90 | 0.87                                                                                | 0.95 |
| Heavy Vehicles (%)      | 2%                                                                                 | 2%   | 2%   | 5%                                                                                | 3%                                                                                | 4%   | 7%                                                                                 | 8%                                                                                  | 2%   | 2%   | 2%                                                                                  | 5%   |
| Adj. Flow (vph)         | 0                                                                                  | 0    | 0    | 354                                                                               | 175                                                                               | 233  | 745                                                                                | 448                                                                                 | 0    | 0    | 615                                                                                 | 294  |
| Shared Lane Traffic (%) |                                                                                    |      |      |                                                                                   |                                                                                   |      |                                                                                    |                                                                                     |      |      |                                                                                     |      |
| Lane Group Flow (vph)   | 0                                                                                  | 0    | 0    | 354                                                                               | 408                                                                               | 0    | 745                                                                                | 448                                                                                 | 0    | 0    | 909                                                                                 | 0    |
| Turn Type               |                                                                                    |      |      | Split                                                                             | NA                                                                                |      | Prot                                                                               | NA                                                                                  |      |      | NA                                                                                  |      |
| Protected Phases        |                                                                                    |      |      | 4                                                                                 | 4                                                                                 |      | 3 5                                                                                | 2 3                                                                                 |      |      | 6                                                                                   |      |
| Permitted Phases        |                                                                                    |      |      |                                                                                   |                                                                                   |      |                                                                                    |                                                                                     |      |      |                                                                                     |      |
| Detector Phase          |                                                                                    |      |      | 4                                                                                 | 4                                                                                 |      | 3 5                                                                                | 2 3                                                                                 |      |      | 6                                                                                   |      |
| Switch Phase            |                                                                                    |      |      |                                                                                   |                                                                                   |      |                                                                                    |                                                                                     |      |      |                                                                                     |      |
| Minimum Initial (s)     |                                                                                    |      |      | 7.0                                                                               | 7.0                                                                               |      |                                                                                    |                                                                                     |      |      | 12.0                                                                                |      |
| Minimum Split (s)       |                                                                                    |      |      | 13.7                                                                              | 13.7                                                                              |      |                                                                                    |                                                                                     |      |      | 28.4                                                                                |      |
| Total Split (s)         |                                                                                    |      |      | 38.0                                                                              | 38.0                                                                              |      |                                                                                    |                                                                                     |      |      | 34.0                                                                                |      |
| Total Split (%)         |                                                                                    |      |      | 29.2%                                                                             | 29.2%                                                                             |      |                                                                                    |                                                                                     |      |      | 26.2%                                                                               |      |
| Maximum Green (s)       |                                                                                    |      |      | 31.3                                                                              | 31.3                                                                              |      |                                                                                    |                                                                                     |      |      | 28.6                                                                                |      |
| Yellow Time (s)         |                                                                                    |      |      | 4.3                                                                               | 4.3                                                                               |      |                                                                                    |                                                                                     |      |      | 4.4                                                                                 |      |
| All-Red Time (s)        |                                                                                    |      |      | 2.4                                                                               | 2.4                                                                               |      |                                                                                    |                                                                                     |      |      | 1.0                                                                                 |      |
| Lost Time Adjust (s)    |                                                                                    |      |      | -1.7                                                                              | -1.7                                                                              |      |                                                                                    |                                                                                     |      |      | -0.4                                                                                |      |
| Total Lost Time (s)     |                                                                                    |      |      | 5.0                                                                               | 5.0                                                                               |      |                                                                                    |                                                                                     |      |      | 5.0                                                                                 |      |
| Lead/Lag                |                                                                                    |      |      | Lag                                                                               | Lag                                                                               |      |                                                                                    |                                                                                     |      |      | Lead                                                                                |      |
| Lead-Lag Optimize?      |                                                                                    |      |      | Yes                                                                               | Yes                                                                               |      |                                                                                    |                                                                                     |      |      | Yes                                                                                 |      |
| Vehicle Extension (s)   |                                                                                    |      |      | 3.0                                                                               | 3.0                                                                               |      |                                                                                    |                                                                                     |      |      | 3.0                                                                                 |      |
| Recall Mode             |                                                                                    |      |      | None                                                                              | None                                                                              |      |                                                                                    |                                                                                     |      |      | C-Min                                                                               |      |
| Walk Time (s)           |                                                                                    |      |      |                                                                                   |                                                                                   |      |                                                                                    |                                                                                     |      |      | 7.0                                                                                 |      |
| Flash Dont Walk (s)     |                                                                                    |      |      |                                                                                   |                                                                                   |      |                                                                                    |                                                                                     |      |      | 16.0                                                                                |      |
| Pedestrian Calls (#/hr) |                                                                                    |      |      |                                                                                   |                                                                                   |      |                                                                                    |                                                                                     |      |      | 0                                                                                   |      |
| Act Effct Green (s)     |                                                                                    |      |      | 31.9                                                                              | 31.9                                                                              |      | 53.7                                                                               | 74.6                                                                                |      |      | 28.0                                                                                |      |
| Actuated g/C Ratio      |                                                                                    |      |      | 0.25                                                                              | 0.25                                                                              |      | 0.41                                                                               | 0.57                                                                                |      |      | 0.22                                                                                |      |
| v/c Ratio               |                                                                                    |      |      | 0.84                                                                              | 0.52                                                                              |      | 0.55                                                                               | 0.23                                                                                |      |      | 0.87dr                                                                              |      |
| Control Delay           |                                                                                    |      |      | 64.8                                                                              | 45.0                                                                              |      | 14.5                                                                               | 0.9                                                                                 |      |      | 50.4                                                                                |      |
| Queue Delay             |                                                                                    |      |      | 0.5                                                                               | 0.0                                                                               |      | 53.0                                                                               | 0.9                                                                                 |      |      | 0.0                                                                                 |      |

Lanes, Volumes, Timings  
4: Stallings Rd & Monroe Expressway WB Ramp

Stallings Farms TIA  
2032 Build AM

| Lane Group              | Ø1   | Ø2    | Ø3   | Ø5   |
|-------------------------|------|-------|------|------|
| Lane Configurations     |      |       |      |      |
| Traffic Volume (vph)    |      |       |      |      |
| Future Volume (vph)     |      |       |      |      |
| Ideal Flow (vphpl)      |      |       |      |      |
| Storage Length (ft)     |      |       |      |      |
| Storage Lanes           |      |       |      |      |
| Taper Length (ft)       |      |       |      |      |
| Lane Util. Factor       |      |       |      |      |
| Frt                     |      |       |      |      |
| Flt Protected           |      |       |      |      |
| Satd. Flow (prot)       |      |       |      |      |
| Flt Permitted           |      |       |      |      |
| Satd. Flow (perm)       |      |       |      |      |
| Right Turn on Red       |      |       |      |      |
| Satd. Flow (RTOR)       |      |       |      |      |
| Link Speed (mph)        |      |       |      |      |
| Link Distance (ft)      |      |       |      |      |
| Travel Time (s)         |      |       |      |      |
| Peak Hour Factor        |      |       |      |      |
| Heavy Vehicles (%)      |      |       |      |      |
| Adj. Flow (vph)         |      |       |      |      |
| Shared Lane Traffic (%) |      |       |      |      |
| Lane Group Flow (vph)   |      |       |      |      |
| Turn Type               |      |       |      |      |
| Protected Phases        | 1    | 2     | 3    | 5    |
| Permitted Phases        |      |       |      |      |
| Detector Phase          |      |       |      |      |
| Switch Phase            |      |       |      |      |
| Minimum Initial (s)     | 7.0  | 10.0  | 7.0  | 7.0  |
| Minimum Split (s)       | 13.3 | 24.2  | 13.4 | 13.2 |
| Total Split (s)         | 14.0 | 34.0  | 44.0 | 14.0 |
| Total Split (%)         | 11%  | 26%   | 34%  | 11%  |
| Maximum Green (s)       | 7.7  | 28.8  | 37.6 | 7.8  |
| Yellow Time (s)         | 3.0  | 3.9   | 3.8  | 3.0  |
| All-Red Time (s)        | 3.3  | 1.3   | 2.6  | 3.2  |
| Lost Time Adjust (s)    |      |       |      |      |
| Total Lost Time (s)     |      |       |      |      |
| Lead/Lag                | Lead | Lag   | Lead | Lag  |
| Lead-Lag Optimize?      | Yes  | Yes   | Yes  | Yes  |
| Vehicle Extension (s)   | 3.0  | 3.0   | 3.0  | 3.0  |
| Recall Mode             | None | C-Min | None | None |
| Walk Time (s)           |      | 7.0   |      |      |
| Flash Dont Walk (s)     |      | 12.0  |      |      |
| Pedestrian Calls (#/hr) |      | 0     |      |      |
| Act Effct Green (s)     |      |       |      |      |
| Actuated g/C Ratio      |      |       |      |      |
| v/c Ratio               |      |       |      |      |
| Control Delay           |      |       |      |      |
| Queue Delay             |      |       |      |      |

Lanes, Volumes, Timings  
4: Stallings Rd & Monroe Expressway WB Ramp

Stallings Farms TIA  
2032 Build AM

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Total Delay             |                                                                                   |                                                                                   |                                                                                   | 65.3                                                                              | 45.0                                                                              |                                                                                   | 67.4                                                                               | 1.8                                                                                 |                                                                                     |                                                                                     | 50.4                                                                                |                                                                                     |
| LOS                     |                                                                                   |                                                                                   |                                                                                   | E                                                                                 | D                                                                                 |                                                                                   | E                                                                                  | A                                                                                   |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |
| Approach Delay          |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 54.4                                                                              |                                                                                   |                                                                                    | 42.8                                                                                |                                                                                     |                                                                                     | 50.4                                                                                |                                                                                     |
| Approach LOS            |                                                                                   |                                                                                   |                                                                                   |                                                                                   | D                                                                                 |                                                                                   |                                                                                    | D                                                                                   |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |
| Queue Length 50th (ft)  |                                                                                   |                                                                                   |                                                                                   | 282                                                                               | 155                                                                               |                                                                                   | 258                                                                                | 1                                                                                   |                                                                                     |                                                                                     | 208                                                                                 |                                                                                     |
| Queue Length 95th (ft)  |                                                                                   |                                                                                   |                                                                                   | #406                                                                              | 184                                                                               |                                                                                   | 327                                                                                | 6                                                                                   |                                                                                     |                                                                                     | 234                                                                                 |                                                                                     |
| Internal Link Dist (ft) |                                                                                   | 1708                                                                              |                                                                                   |                                                                                   | 2301                                                                              |                                                                                   |                                                                                    | 118                                                                                 |                                                                                     |                                                                                     | 918                                                                                 |                                                                                     |
| Turn Bay Length (ft)    |                                                                                   |                                                                                   |                                                                                   | 325                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Base Capacity (vph)     |                                                                                   |                                                                                   |                                                                                   | 436                                                                               | 808                                                                               |                                                                                   | 1360                                                                               | 1927                                                                                |                                                                                     |                                                                                     | 1346                                                                                |                                                                                     |
| Starvation Cap Reductn  |                                                                                   |                                                                                   |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 768                                                                                | 1149                                                                                |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Spillback Cap Reductn   |                                                                                   |                                                                                   |                                                                                   | 7                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                  | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Storage Cap Reductn     |                                                                                   |                                                                                   |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                  | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Reduced v/c Ratio       |                                                                                   |                                                                                   |                                                                                   | 0.83                                                                              | 0.50                                                                              |                                                                                   | 1.26                                                                               | 0.58                                                                                |                                                                                     |                                                                                     | 0.68                                                                                |                                                                                     |

Intersection Summary

Area Type: Other

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 28.4 (22%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 48.3

Intersection LOS: D

Intersection Capacity Utilization 72.1%

ICU Level of Service C

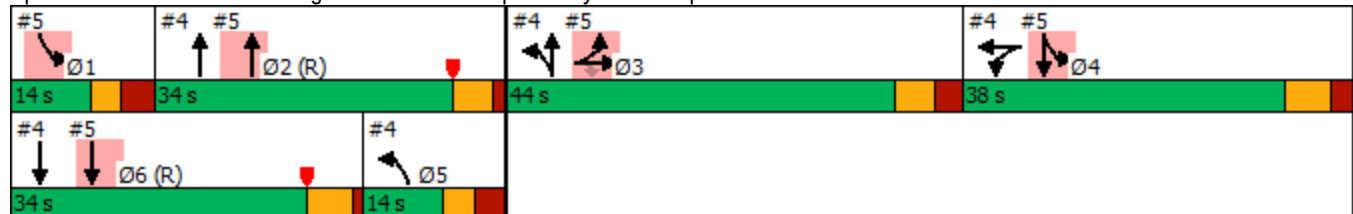
Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Splits and Phases: 4: Stallings Rd & Monroe Expressway WB Ramp



| Lane Group              | Ø1 | Ø2 | Ø3 | Ø5 |
|-------------------------|----|----|----|----|
| Total Delay             |    |    |    |    |
| LOS                     |    |    |    |    |
| Approach Delay          |    |    |    |    |
| Approach LOS            |    |    |    |    |
| Queue Length 50th (ft)  |    |    |    |    |
| Queue Length 95th (ft)  |    |    |    |    |
| Internal Link Dist (ft) |    |    |    |    |
| Turn Bay Length (ft)    |    |    |    |    |
| Base Capacity (vph)     |    |    |    |    |
| Starvation Cap Reductn  |    |    |    |    |
| Spillback Cap Reductn   |    |    |    |    |
| Storage Cap Reductn     |    |    |    |    |
| Reduced v/c Ratio       |    |    |    |    |
| Intersection Summary    |    |    |    |    |

Lanes, Volumes, Timings  
5: Stallings Rd & Monroe Expressway EB Ramp

Stallings Farms TIA

2032 Build AM

|                         |  |                                                                                   |                                                                                   |      |      |      |      |                                                                                     |      |                                                                                     |                                                                                     |      |
|-------------------------|------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|------|------|------|-------------------------------------------------------------------------------------|------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------|
| Lane Group              | EBL                                                                                | EBT                                                                               | EBR                                                                               | WBL  | WBT  | WBR  | NBL  | NBT                                                                                 | NBR  | SBL                                                                                 | SBT                                                                                 | SBR  |
| Lane Configurations     |                                                                                    |  |  |      |      |      |      |  |      |  |  |      |
| Traffic Volume (vph)    | 256                                                                                | 184                                                                               | 469                                                                               | 0    | 0    | 0    | 0    | 820                                                                                 | 71   | 226                                                                                 | 617                                                                                 | 0    |
| Future Volume (vph)     | 256                                                                                | 184                                                                               | 469                                                                               | 0    | 0    | 0    | 0    | 820                                                                                 | 71   | 226                                                                                 | 617                                                                                 | 0    |
| Ideal Flow (vphpl)      | 1900                                                                               | 1900                                                                              | 1900                                                                              | 1900 | 1900 | 1900 | 1900 | 1900                                                                                | 1900 | 1900                                                                                | 1900                                                                                | 1900 |
| Storage Length (ft)     | 175                                                                                |                                                                                   | 325                                                                               | 0    |      | 0    | 425  |                                                                                     | 275  | 0                                                                                   |                                                                                     | 0    |
| Storage Lanes           | 0                                                                                  |                                                                                   | 1                                                                                 | 0    |      | 0    | 2    |                                                                                     | 0    | 2                                                                                   |                                                                                     | 0    |
| Taper Length (ft)       | 100                                                                                |                                                                                   |                                                                                   | 25   |      |      | 225  |                                                                                     |      | 25                                                                                  |                                                                                     |      |
| Lane Util. Factor       | 0.95                                                                               | 0.91                                                                              | 0.91                                                                              | 1.00 | 1.00 | 1.00 | 1.00 | 0.86                                                                                | 0.86 | 0.97                                                                                | 0.95                                                                                | 1.00 |
| Frt                     |                                                                                    | 0.958                                                                             | 0.850                                                                             |      |      |      |      | 0.984                                                                               |      |                                                                                     |                                                                                     |      |
| Flt Protected           |                                                                                    | 0.980                                                                             |                                                                                   |      |      |      |      |                                                                                     |      | 0.950                                                                               |                                                                                     |      |
| Satd. Flow (prot)       | 0                                                                                  | 3103                                                                              | 1427                                                                              | 0    | 0    | 0    | 0    | 5973                                                                                | 0    | 3335                                                                                | 3505                                                                                | 0    |
| Flt Permitted           |                                                                                    | 0.980                                                                             |                                                                                   |      |      |      |      |                                                                                     |      | 0.950                                                                               |                                                                                     |      |
| Satd. Flow (perm)       | 0                                                                                  | 3103                                                                              | 1427                                                                              | 0    | 0    | 0    | 0    | 5973                                                                                | 0    | 3335                                                                                | 3505                                                                                | 0    |
| Right Turn on Red       |                                                                                    |                                                                                   | No                                                                                |      |      | No   |      |                                                                                     | No   |                                                                                     |                                                                                     | No   |
| Satd. Flow (RTOR)       |                                                                                    |                                                                                   |                                                                                   |      |      |      |      |                                                                                     |      |                                                                                     |                                                                                     |      |
| Link Speed (mph)        |                                                                                    | 35                                                                                |                                                                                   |      | 30   |      |      | 35                                                                                  |      |                                                                                     | 35                                                                                  |      |
| Link Distance (ft)      |                                                                                    | 1776                                                                              |                                                                                   |      | 891  |      |      | 1501                                                                                |      |                                                                                     | 198                                                                                 |      |
| Travel Time (s)         |                                                                                    | 34.6                                                                              |                                                                                   |      | 20.3 |      |      | 29.2                                                                                |      |                                                                                     | 3.9                                                                                 |      |
| Peak Hour Factor        | 0.79                                                                               | 0.78                                                                              | 0.81                                                                              | 0.90 | 0.90 | 0.90 | 0.90 | 0.92                                                                                | 0.67 | 0.81                                                                                | 0.92                                                                                | 0.90 |
| Heavy Vehicles (%)      | 4%                                                                                 | 7%                                                                                | 3%                                                                                | 2%   | 2%   | 2%   | 2%   | 8%                                                                                  | 5%   | 5%                                                                                  | 3%                                                                                  | 2%   |
| Adj. Flow (vph)         | 324                                                                                | 236                                                                               | 579                                                                               | 0    | 0    | 0    | 0    | 891                                                                                 | 106  | 279                                                                                 | 671                                                                                 | 0    |
| Shared Lane Traffic (%) |                                                                                    |                                                                                   | 38%                                                                               |      |      |      |      |                                                                                     |      |                                                                                     |                                                                                     |      |
| Lane Group Flow (vph)   | 0                                                                                  | 780                                                                               | 359                                                                               | 0    | 0    | 0    | 0    | 997                                                                                 | 0    | 279                                                                                 | 671                                                                                 | 0    |
| Turn Type               | Split                                                                              | NA                                                                                | Perm                                                                              |      |      |      |      | NA                                                                                  |      | Prot                                                                                | NA                                                                                  |      |
| Protected Phases        | 3                                                                                  | 3                                                                                 |                                                                                   |      |      |      |      | 2                                                                                   |      | 1 4                                                                                 | 4 6                                                                                 |      |
| Permitted Phases        |                                                                                    |                                                                                   | 3                                                                                 |      |      |      |      |                                                                                     |      |                                                                                     |                                                                                     |      |
| Detector Phase          | 3                                                                                  | 3                                                                                 | 3                                                                                 |      |      |      |      | 2                                                                                   |      | 1 4                                                                                 | 4 6                                                                                 |      |
| Switch Phase            |                                                                                    |                                                                                   |                                                                                   |      |      |      |      |                                                                                     |      |                                                                                     |                                                                                     |      |
| Minimum Initial (s)     | 7.0                                                                                | 7.0                                                                               | 7.0                                                                               |      |      |      |      | 10.0                                                                                |      |                                                                                     |                                                                                     |      |
| Minimum Split (s)       | 13.4                                                                               | 13.4                                                                              | 13.4                                                                              |      |      |      |      | 24.2                                                                                |      |                                                                                     |                                                                                     |      |
| Total Split (s)         | 44.0                                                                               | 44.0                                                                              | 44.0                                                                              |      |      |      |      | 34.0                                                                                |      |                                                                                     |                                                                                     |      |
| Total Split (%)         | 33.8%                                                                              | 33.8%                                                                             | 33.8%                                                                             |      |      |      |      | 26.2%                                                                               |      |                                                                                     |                                                                                     |      |
| Maximum Green (s)       | 37.6                                                                               | 37.6                                                                              | 37.6                                                                              |      |      |      |      | 28.8                                                                                |      |                                                                                     |                                                                                     |      |
| Yellow Time (s)         | 3.8                                                                                | 3.8                                                                               | 3.8                                                                               |      |      |      |      | 3.9                                                                                 |      |                                                                                     |                                                                                     |      |
| All-Red Time (s)        | 2.6                                                                                | 2.6                                                                               | 2.6                                                                               |      |      |      |      | 1.3                                                                                 |      |                                                                                     |                                                                                     |      |
| Lost Time Adjust (s)    |                                                                                    | -1.4                                                                              | -1.4                                                                              |      |      |      |      | -0.2                                                                                |      |                                                                                     |                                                                                     |      |
| Total Lost Time (s)     |                                                                                    | 5.0                                                                               | 5.0                                                                               |      |      |      |      | 5.0                                                                                 |      |                                                                                     |                                                                                     |      |
| Lead/Lag                | Lead                                                                               | Lead                                                                              | Lead                                                                              |      |      |      |      | Lag                                                                                 |      |                                                                                     |                                                                                     |      |
| Lead-Lag Optimize?      | Yes                                                                                | Yes                                                                               | Yes                                                                               |      |      |      |      | Yes                                                                                 |      |                                                                                     |                                                                                     |      |
| Vehicle Extension (s)   | 3.0                                                                                | 3.0                                                                               | 3.0                                                                               |      |      |      |      | 3.0                                                                                 |      |                                                                                     |                                                                                     |      |
| Recall Mode             | None                                                                               | None                                                                              | None                                                                              |      |      |      |      | C-Min                                                                               |      |                                                                                     |                                                                                     |      |
| Walk Time (s)           |                                                                                    |                                                                                   |                                                                                   |      |      |      |      | 7.0                                                                                 |      |                                                                                     |                                                                                     |      |
| Flash Dont Walk (s)     |                                                                                    |                                                                                   |                                                                                   |      |      |      |      | 12.0                                                                                |      |                                                                                     |                                                                                     |      |
| Pedestrian Calls (#/hr) |                                                                                    |                                                                                   |                                                                                   |      |      |      |      | 0                                                                                   |      |                                                                                     |                                                                                     |      |
| Act Effct Green (s)     |                                                                                    | 38.7                                                                              | 38.7                                                                              |      |      |      |      | 31.1                                                                                |      | 43.9                                                                                | 63.2                                                                                |      |
| Actuated g/C Ratio      |                                                                                    | 0.30                                                                              | 0.30                                                                              |      |      |      |      | 0.24                                                                                |      | 0.34                                                                                | 0.49                                                                                |      |
| v/c Ratio               |                                                                                    | 0.85                                                                              | 0.85                                                                              |      |      |      |      | 0.70                                                                                |      | 0.25                                                                                | 0.39                                                                                |      |
| Control Delay           |                                                                                    | 52.7                                                                              | 62.0                                                                              |      |      |      |      | 48.5                                                                                |      | 43.2                                                                                | 2.2                                                                                 |      |
| Queue Delay             |                                                                                    | 0.0                                                                               | 0.0                                                                               |      |      |      |      | 6.6                                                                                 |      | 6.0                                                                                 | 1.1                                                                                 |      |

Lanes, Volumes, Timings  
5: Stallings Rd & Monroe Expressway EB Ramp

Stallings Farms TIA  
2032 Build AM

| Lane Group              | Ø1   | Ø4   | Ø5   | Ø6    |
|-------------------------|------|------|------|-------|
| Lane Configurations     |      |      |      |       |
| Traffic Volume (vph)    |      |      |      |       |
| Future Volume (vph)     |      |      |      |       |
| Ideal Flow (vphpl)      |      |      |      |       |
| Storage Length (ft)     |      |      |      |       |
| Storage Lanes           |      |      |      |       |
| Taper Length (ft)       |      |      |      |       |
| Lane Util. Factor       |      |      |      |       |
| Frt                     |      |      |      |       |
| Flt Protected           |      |      |      |       |
| Satd. Flow (prot)       |      |      |      |       |
| Flt Permitted           |      |      |      |       |
| Satd. Flow (perm)       |      |      |      |       |
| Right Turn on Red       |      |      |      |       |
| Satd. Flow (RTOR)       |      |      |      |       |
| Link Speed (mph)        |      |      |      |       |
| Link Distance (ft)      |      |      |      |       |
| Travel Time (s)         |      |      |      |       |
| Peak Hour Factor        |      |      |      |       |
| Heavy Vehicles (%)      |      |      |      |       |
| Adj. Flow (vph)         |      |      |      |       |
| Shared Lane Traffic (%) |      |      |      |       |
| Lane Group Flow (vph)   |      |      |      |       |
| Turn Type               |      |      |      |       |
| Protected Phases        | 1    | 4    | 5    | 6     |
| Permitted Phases        |      |      |      |       |
| Detector Phase          |      |      |      |       |
| Switch Phase            |      |      |      |       |
| Minimum Initial (s)     | 7.0  | 7.0  | 7.0  | 12.0  |
| Minimum Split (s)       | 13.3 | 13.7 | 13.2 | 28.4  |
| Total Split (s)         | 14.0 | 38.0 | 14.0 | 34.0  |
| Total Split (%)         | 11%  | 29%  | 11%  | 26%   |
| Maximum Green (s)       | 7.7  | 31.3 | 7.8  | 28.6  |
| Yellow Time (s)         | 3.0  | 4.3  | 3.0  | 4.4   |
| All-Red Time (s)        | 3.3  | 2.4  | 3.2  | 1.0   |
| Lost Time Adjust (s)    |      |      |      |       |
| Total Lost Time (s)     |      |      |      |       |
| Lead/Lag                | Lead | Lag  | Lag  | Lead  |
| Lead-Lag Optimize?      | Yes  | Yes  | Yes  | Yes   |
| Vehicle Extension (s)   | 3.0  | 3.0  | 3.0  | 3.0   |
| Recall Mode             | None | None | None | C-Min |
| Walk Time (s)           |      |      |      | 7.0   |
| Flash Dont Walk (s)     |      |      |      | 16.0  |
| Pedestrian Calls (#/hr) |      |      |      | 0     |
| Act Effct Green (s)     |      |      |      |       |
| Actuated g/C Ratio      |      |      |      |       |
| v/c Ratio               |      |      |      |       |
| Control Delay           |      |      |      |       |
| Queue Delay             |      |      |      |       |

Lanes, Volumes, Timings  
5: Stallings Rd & Monroe Expressway EB Ramp

Stallings Farms TIA  
2032 Build AM

|                         |  |      |      |     |     |     |     |      |     |      |      |     |
|-------------------------|------------------------------------------------------------------------------------|------|------|-----|-----|-----|-----|------|-----|------|------|-----|
| Lane Group              | EBL                                                                                | EBT  | EBR  | WBL | WBT | WBR | NBL | NBT  | NBR | SBL  | SBT  | SBR |
| Total Delay             |                                                                                    | 52.7 | 62.0 |     |     |     |     | 55.2 |     | 49.2 | 3.3  |     |
| LOS                     |                                                                                    | D    | E    |     |     |     |     | E    |     | D    | A    |     |
| Approach Delay          |                                                                                    | 55.6 |      |     |     |     |     | 55.2 |     |      | 16.8 |     |
| Approach LOS            |                                                                                    | E    |      |     |     |     |     | E    |     |      | B    |     |
| Queue Length 50th (ft)  |                                                                                    | 337  | 310  |     |     |     |     | 227  |     | 69   | 8    |     |
| Queue Length 95th (ft)  |                                                                                    | 347  | 391  |     |     |     |     | 269  |     | 88   | 10   |     |
| Internal Link Dist (ft) |                                                                                    | 1696 |      |     | 811 |     |     | 1421 |     |      | 118  |     |
| Turn Bay Length (ft)    |                                                                                    |      | 325  |     |     |     |     |      |     |      |      |     |
| Base Capacity (vph)     |                                                                                    | 930  | 428  |     |     |     |     | 1430 |     | 1140 | 1724 |     |
| Starvation Cap Reductn  |                                                                                    | 0    | 0    |     |     |     |     | 0    |     | 795  | 763  |     |
| Spillback Cap Reductn   |                                                                                    | 0    | 0    |     |     |     |     | 382  |     | 0    | 0    |     |
| Storage Cap Reductn     |                                                                                    | 0    | 0    |     |     |     |     | 0    |     | 0    | 0    |     |
| Reduced v/c Ratio       |                                                                                    | 0.84 | 0.84 |     |     |     |     | 0.95 |     | 0.81 | 0.70 |     |

Intersection Summary

Area Type: Other

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 28.4 (22%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 43.5

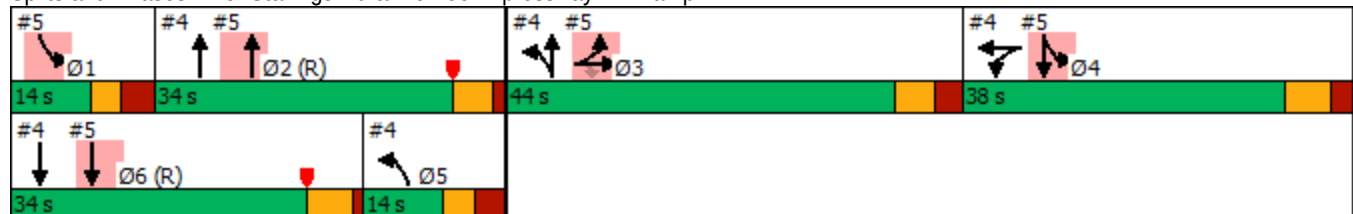
Intersection LOS: D

Intersection Capacity Utilization 72.1%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 5: Stallings Rd & Monroe Expressway EB Ramp



| Lane Group              | Ø1 | Ø4 | Ø5 | Ø6 |
|-------------------------|----|----|----|----|
| Total Delay             |    |    |    |    |
| LOS                     |    |    |    |    |
| Approach Delay          |    |    |    |    |
| Approach LOS            |    |    |    |    |
| Queue Length 50th (ft)  |    |    |    |    |
| Queue Length 95th (ft)  |    |    |    |    |
| Internal Link Dist (ft) |    |    |    |    |
| Turn Bay Length (ft)    |    |    |    |    |
| Base Capacity (vph)     |    |    |    |    |
| Starvation Cap Reductn  |    |    |    |    |
| Spillback Cap Reductn   |    |    |    |    |
| Storage Cap Reductn     |    |    |    |    |
| Reduced v/c Ratio       |    |    |    |    |
| Intersection Summary    |    |    |    |    |



Lanes, Volumes, Timings  
6: Stallings Rd & Matthews-Indian Trail Rd

Stallings Farms TIA  
2032 Build AM

|                         |  |  |  |  |  |  |   |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations     |  |  |                                                                                   |  |  |                                                                                   |  |  |                                                                                     |  |  |                                                                                     |
| Traffic Volume (vph)    | 23                                                                                | 29                                                                                | 76                                                                                | 117                                                                               | 62                                                                                | 128                                                                               | 147                                                                                 | 722                                                                                 | 107                                                                                 | 193                                                                                 | 682                                                                                 | 57                                                                                  |
| Future Volume (vph)     | 23                                                                                | 29                                                                                | 76                                                                                | 117                                                                               | 62                                                                                | 128                                                                               | 147                                                                                 | 722                                                                                 | 107                                                                                 | 193                                                                                 | 682                                                                                 | 57                                                                                  |
| Ideal Flow (vphpl)      | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)     | 140                                                                               |                                                                                   | 0                                                                                 | 140                                                                               |                                                                                   | 0                                                                                 | 120                                                                                 |                                                                                     | 150                                                                                 | 110                                                                                 |                                                                                     | 0                                                                                   |
| Storage Lanes           | 1                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                   |                                                                                     | 0                                                                                   | 1                                                                                   |                                                                                     | 0                                                                                   |
| Taper Length (ft)       | 100                                                                               |                                                                                   |                                                                                   | 75                                                                                |                                                                                   |                                                                                   | 100                                                                                 |                                                                                     |                                                                                     | 100                                                                                 |                                                                                     |                                                                                     |
| Lane Util. Factor       | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Frt                     |                                                                                   | 0.892                                                                             |                                                                                   |                                                                                   | 0.901                                                                             |                                                                                   |                                                                                     | 0.980                                                                               |                                                                                     |                                                                                     | 0.987                                                                               |                                                                                     |
| Flt Protected           | 0.950                                                                             |                                                                                   |                                                                                   | 0.950                                                                             |                                                                                   |                                                                                   | 0.950                                                                               |                                                                                     |                                                                                     | 0.950                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (prot)       | 1543                                                                              | 1616                                                                              | 0                                                                                 | 1467                                                                              | 1635                                                                              | 0                                                                                 | 1770                                                                                | 1724                                                                                | 0                                                                                   | 1770                                                                                | 1822                                                                                | 0                                                                                   |
| Flt Permitted           | 0.375                                                                             |                                                                                   |                                                                                   | 0.641                                                                             |                                                                                   |                                                                                   | 0.244                                                                               |                                                                                     |                                                                                     | 0.178                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (perm)       | 609                                                                               | 1616                                                                              | 0                                                                                 | 990                                                                               | 1635                                                                              | 0                                                                                 | 455                                                                                 | 1724                                                                                | 0                                                                                   | 332                                                                                 | 1822                                                                                | 0                                                                                   |
| Right Turn on Red       |                                                                                   |                                                                                   | No                                                                                |                                                                                   |                                                                                   | No                                                                                |                                                                                     |                                                                                     | No                                                                                  |                                                                                     |                                                                                     | No                                                                                  |
| Satd. Flow (RTOR)       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Link Speed (mph)        |                                                                                   | 45                                                                                |                                                                                   |                                                                                   | 35                                                                                |                                                                                   |                                                                                     | 35                                                                                  |                                                                                     |                                                                                     | 35                                                                                  |                                                                                     |
| Link Distance (ft)      |                                                                                   | 2002                                                                              |                                                                                   |                                                                                   | 586                                                                               |                                                                                   |                                                                                     | 1248                                                                                |                                                                                     |                                                                                     | 1501                                                                                |                                                                                     |
| Travel Time (s)         |                                                                                   | 30.3                                                                              |                                                                                   |                                                                                   | 11.4                                                                              |                                                                                   |                                                                                     | 24.3                                                                                |                                                                                     |                                                                                     | 29.2                                                                                |                                                                                     |
| Peak Hour Factor        | 0.79                                                                              | 0.72                                                                              | 0.74                                                                              | 0.68                                                                              | 0.71                                                                              | 0.76                                                                              | 0.81                                                                                | 0.87                                                                                | 0.82                                                                                | 0.87                                                                                | 0.89                                                                                | 0.82                                                                                |
| Heavy Vehicles (%)      | 17%                                                                               | 2%                                                                                | 6%                                                                                | 23%                                                                               | 8%                                                                                | 3%                                                                                | 2%                                                                                  | 8%                                                                                  | 8%                                                                                  | 2%                                                                                  | 3%                                                                                  | 2%                                                                                  |
| Adj. Flow (vph)         | 29                                                                                | 40                                                                                | 103                                                                               | 172                                                                               | 87                                                                                | 168                                                                               | 181                                                                                 | 830                                                                                 | 130                                                                                 | 222                                                                                 | 766                                                                                 | 70                                                                                  |
| Shared Lane Traffic (%) |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)   | 29                                                                                | 143                                                                               | 0                                                                                 | 172                                                                               | 255                                                                               | 0                                                                                 | 181                                                                                 | 960                                                                                 | 0                                                                                   | 222                                                                                 | 836                                                                                 | 0                                                                                   |
| Turn Type               | Perm                                                                              | NA                                                                                |                                                                                   | Perm                                                                              | NA                                                                                |                                                                                   | Perm                                                                                | NA                                                                                  |                                                                                     | Perm                                                                                | NA                                                                                  |                                                                                     |
| Protected Phases        |                                                                                   | 4                                                                                 |                                                                                   |                                                                                   | 8                                                                                 |                                                                                   |                                                                                     | 2                                                                                   |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     |
| Permitted Phases        | 4                                                                                 |                                                                                   |                                                                                   | 8                                                                                 |                                                                                   |                                                                                   | 2                                                                                   |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     |                                                                                     |
| Detector Phase          | 4                                                                                 | 4                                                                                 |                                                                                   | 8                                                                                 | 8                                                                                 |                                                                                   | 2                                                                                   | 2                                                                                   |                                                                                     | 6                                                                                   | 6                                                                                   |                                                                                     |
| Switch Phase            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)     | 7.0                                                                               | 7.0                                                                               |                                                                                   | 7.0                                                                               | 7.0                                                                               |                                                                                   | 10.0                                                                                | 10.0                                                                                |                                                                                     | 10.0                                                                                | 10.0                                                                                |                                                                                     |
| Minimum Split (s)       | 12.3                                                                              | 12.3                                                                              |                                                                                   | 12.7                                                                              | 12.7                                                                              |                                                                                   | 34.4                                                                                | 34.4                                                                                |                                                                                     | 15.3                                                                                | 15.3                                                                                |                                                                                     |
| Total Split (s)         | 20.0                                                                              | 20.0                                                                              |                                                                                   | 20.0                                                                              | 20.0                                                                              |                                                                                   | 60.0                                                                                | 60.0                                                                                |                                                                                     | 60.0                                                                                | 60.0                                                                                |                                                                                     |
| Total Split (%)         | 25.0%                                                                             | 25.0%                                                                             |                                                                                   | 25.0%                                                                             | 25.0%                                                                             |                                                                                   | 75.0%                                                                               | 75.0%                                                                               |                                                                                     | 75.0%                                                                               | 75.0%                                                                               |                                                                                     |
| Maximum Green (s)       | 14.7                                                                              | 14.7                                                                              |                                                                                   | 14.3                                                                              | 14.3                                                                              |                                                                                   | 54.6                                                                                | 54.6                                                                                |                                                                                     | 54.7                                                                                | 54.7                                                                                |                                                                                     |
| Yellow Time (s)         | 3.6                                                                               | 3.6                                                                               |                                                                                   | 4.0                                                                               | 4.0                                                                               |                                                                                   | 3.8                                                                                 | 3.8                                                                                 |                                                                                     | 3.6                                                                                 | 3.6                                                                                 |                                                                                     |
| All-Red Time (s)        | 1.7                                                                               | 1.7                                                                               |                                                                                   | 1.7                                                                               | 1.7                                                                               |                                                                                   | 1.6                                                                                 | 1.6                                                                                 |                                                                                     | 1.7                                                                                 | 1.7                                                                                 |                                                                                     |
| Lost Time Adjust (s)    | -0.3                                                                              | -0.3                                                                              |                                                                                   | -0.7                                                                              | -0.7                                                                              |                                                                                   | -0.4                                                                                | -0.4                                                                                |                                                                                     | -0.3                                                                                | -0.3                                                                                |                                                                                     |
| Total Lost Time (s)     | 5.0                                                                               | 5.0                                                                               |                                                                                   | 5.0                                                                               | 5.0                                                                               |                                                                                   | 5.0                                                                                 | 5.0                                                                                 |                                                                                     | 5.0                                                                                 | 5.0                                                                                 |                                                                                     |
| Lead/Lag                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lead-Lag Optimize?      |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Vehicle Extension (s)   | 2.0                                                                               | 2.0                                                                               |                                                                                   | 2.0                                                                               | 2.0                                                                               |                                                                                   | 3.0                                                                                 | 3.0                                                                                 |                                                                                     | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |
| Recall Mode             | None                                                                              | None                                                                              |                                                                                   | None                                                                              | None                                                                              |                                                                                   | Min                                                                                 | Min                                                                                 |                                                                                     | Min                                                                                 | Min                                                                                 |                                                                                     |
| Walk Time (s)           |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 7.0                                                                                 | 7.0                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Flash Dont Walk (s)     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 22.0                                                                                | 22.0                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Pedestrian Calls (#/hr) |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Act Effct Green (s)     | 14.9                                                                              | 14.9                                                                              |                                                                                   | 14.9                                                                              | 14.9                                                                              |                                                                                   | 54.3                                                                                | 54.3                                                                                |                                                                                     | 54.3                                                                                | 54.3                                                                                |                                                                                     |
| Actuated g/C Ratio      | 0.19                                                                              | 0.19                                                                              |                                                                                   | 0.19                                                                              | 0.19                                                                              |                                                                                   | 0.69                                                                                | 0.69                                                                                |                                                                                     | 0.69                                                                                | 0.69                                                                                |                                                                                     |
| v/c Ratio               | 0.25                                                                              | 0.47                                                                              |                                                                                   | 0.92                                                                              | 0.83                                                                              |                                                                                   | 0.58                                                                                | 0.81                                                                                |                                                                                     | 0.98                                                                                | 0.67                                                                                |                                                                                     |
| Control Delay           | 34.3                                                                              | 34.8                                                                              |                                                                                   | 85.1                                                                              | 55.6                                                                              |                                                                                   | 15.8                                                                                | 16.1                                                                                |                                                                                     | 72.1                                                                                | 10.6                                                                                |                                                                                     |
| Queue Delay             | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                                 | 0.0                                                                                 |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |

Lanes, Volumes, Timings  
6: Stallings Rd & Matthews-Indian Trail Rd

Stallings Farms TIA  
2032 Build AM

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Total Delay             | 34.3                                                                              | 34.8                                                                              |                                                                                   | 85.1                                                                              | 55.6                                                                              |                                                                                   | 15.8                                                                               | 16.1                                                                                |                                                                                     | 72.1                                                                                | 10.6                                                                                |                                                                                     |
| LOS                     | C                                                                                 | C                                                                                 |                                                                                   | F                                                                                 | E                                                                                 |                                                                                   | B                                                                                  | B                                                                                   |                                                                                     | E                                                                                   | B                                                                                   |                                                                                     |
| Approach Delay          |                                                                                   | 34.7                                                                              |                                                                                   |                                                                                   | 67.5                                                                              |                                                                                   |                                                                                    | 16.1                                                                                |                                                                                     |                                                                                     | 23.5                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | C                                                                                 |                                                                                   |                                                                                   | E                                                                                 |                                                                                   |                                                                                    | B                                                                                   |                                                                                     |                                                                                     | C                                                                                   |                                                                                     |
| Queue Length 50th (ft)  | 12                                                                                | 64                                                                                |                                                                                   | 85                                                                                | 124                                                                               |                                                                                   | 40                                                                                 | 286                                                                                 |                                                                                     | 89                                                                                  | 204                                                                                 |                                                                                     |
| Queue Length 95th (ft)  | 32                                                                                | 93                                                                                |                                                                                   | #130                                                                              | 154                                                                               |                                                                                   | 85                                                                                 | 437                                                                                 |                                                                                     | #120                                                                                | 312                                                                                 |                                                                                     |
| Internal Link Dist (ft) |                                                                                   | 1922                                                                              |                                                                                   |                                                                                   | 506                                                                               |                                                                                   |                                                                                    | 1168                                                                                |                                                                                     |                                                                                     | 1421                                                                                |                                                                                     |
| Turn Bay Length (ft)    | 140                                                                               |                                                                                   |                                                                                   | 140                                                                               |                                                                                   |                                                                                   | 120                                                                                |                                                                                     |                                                                                     | 110                                                                                 |                                                                                     |                                                                                     |
| Base Capacity (vph)     | 115                                                                               | 306                                                                               |                                                                                   | 187                                                                               | 309                                                                               |                                                                                   | 315                                                                                | 1197                                                                                |                                                                                     | 230                                                                                 | 1265                                                                                |                                                                                     |
| Starvation Cap Reductn  | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                  | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     |
| Spillback Cap Reductn   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                  | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     |
| Storage Cap Reductn     | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                  | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     |
| Reduced v/c Ratio       | 0.25                                                                              | 0.47                                                                              |                                                                                   | 0.92                                                                              | 0.83                                                                              |                                                                                   | 0.57                                                                               | 0.80                                                                                |                                                                                     | 0.97                                                                                | 0.66                                                                                |                                                                                     |

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 79.2

Natural Cycle: 80

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.98

Intersection Signal Delay: 27.9

Intersection LOS: C

Intersection Capacity Utilization 86.8%

ICU Level of Service E

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 6: Stallings Rd & Matthews-Indian Trail Rd

|                                                                                        |                                                                                          |
|----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
|  Ø2 |  Ø4 |
| 60 s                                                                                   | 20 s                                                                                     |
|  Ø6 |  Ø8 |
| 60 s                                                                                   | 20 s                                                                                     |

Lanes, Volumes, Timings  
7: Mt. Harmony Church Rd & Stevens Mill Rd

Stallings Farms TIA  
2032 Build AM

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations     |                                                                                   |  |                                                                                   |  |  |                                                                                   |                                                                                    |  |                                                                                     |  |  |                                                                                     |
| Traffic Volume (vph)    | 11                                                                                | 6                                                                                 | 4                                                                                 | 61                                                                                | 22                                                                                | 418                                                                               | 9                                                                                  | 142                                                                                 | 67                                                                                  | 201                                                                                 | 98                                                                                  | 24                                                                                  |
| Future Volume (vph)     | 11                                                                                | 6                                                                                 | 4                                                                                 | 61                                                                                | 22                                                                                | 418                                                                               | 9                                                                                  | 142                                                                                 | 67                                                                                  | 201                                                                                 | 98                                                                                  | 24                                                                                  |
| Ideal Flow (vphpl)      | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                               | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)     | 0                                                                                 |                                                                                   | 0                                                                                 | 125                                                                               |                                                                                   | 0                                                                                 | 0                                                                                  |                                                                                     | 0                                                                                   | 150                                                                                 |                                                                                     | 0                                                                                   |
| Storage Lanes           | 0                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                  |                                                                                     | 0                                                                                   | 1                                                                                   |                                                                                     | 0                                                                                   |
| Taper Length (ft)       | 25                                                                                |                                                                                   |                                                                                   | 125                                                                               |                                                                                   |                                                                                   | 25                                                                                 |                                                                                     |                                                                                     | 100                                                                                 |                                                                                     |                                                                                     |
| Lane Util. Factor       | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                               | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Frt                     |                                                                                   | 0.961                                                                             |                                                                                   |                                                                                   | 0.858                                                                             |                                                                                   |                                                                                    | 0.958                                                                               |                                                                                     |                                                                                     | 0.965                                                                               |                                                                                     |
| Flt Protected           |                                                                                   | 0.980                                                                             |                                                                                   | 0.950                                                                             |                                                                                   |                                                                                   |                                                                                    | 0.997                                                                               |                                                                                     | 0.950                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (prot)       | 0                                                                                 | 1363                                                                              | 0                                                                                 | 1752                                                                              | 1485                                                                              | 0                                                                                 | 0                                                                                  | 1753                                                                                | 0                                                                                   | 1770                                                                                | 1754                                                                                | 0                                                                                   |
| Flt Permitted           |                                                                                   | 0.980                                                                             |                                                                                   | 0.950                                                                             |                                                                                   |                                                                                   |                                                                                    | 0.997                                                                               |                                                                                     | 0.950                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (perm)       | 0                                                                                 | 1363                                                                              | 0                                                                                 | 1752                                                                              | 1485                                                                              | 0                                                                                 | 0                                                                                  | 1753                                                                                | 0                                                                                   | 1770                                                                                | 1754                                                                                | 0                                                                                   |
| Link Speed (mph)        |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 35                                                                                |                                                                                   |                                                                                    | 35                                                                                  |                                                                                     |                                                                                     | 35                                                                                  |                                                                                     |
| Link Distance (ft)      |                                                                                   | 831                                                                               |                                                                                   |                                                                                   | 703                                                                               |                                                                                   |                                                                                    | 907                                                                                 |                                                                                     |                                                                                     | 461                                                                                 |                                                                                     |
| Travel Time (s)         |                                                                                   | 16.2                                                                              |                                                                                   |                                                                                   | 13.7                                                                              |                                                                                   |                                                                                    | 17.7                                                                                |                                                                                     |                                                                                     | 9.0                                                                                 |                                                                                     |
| Peak Hour Factor        | 0.48                                                                              | 0.38                                                                              | 0.25                                                                              | 0.60                                                                              | 0.69                                                                              | 0.77                                                                              | 0.38                                                                               | 0.65                                                                                | 0.62                                                                                | 0.66                                                                                | 0.70                                                                                | 0.57                                                                                |
| Heavy Vehicles (%)      | 17%                                                                               | 33%                                                                               | 50%                                                                               | 3%                                                                                | 57%                                                                               | 7%                                                                                | 2%                                                                                 | 2%                                                                                  | 7%                                                                                  | 2%                                                                                  | 2%                                                                                  | 13%                                                                                 |
| Adj. Flow (vph)         | 23                                                                                | 16                                                                                | 16                                                                                | 102                                                                               | 32                                                                                | 543                                                                               | 24                                                                                 | 218                                                                                 | 108                                                                                 | 305                                                                                 | 140                                                                                 | 42                                                                                  |
| Shared Lane Traffic (%) |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)   | 0                                                                                 | 55                                                                                | 0                                                                                 | 102                                                                               | 575                                                                               | 0                                                                                 | 0                                                                                  | 350                                                                                 | 0                                                                                   | 305                                                                                 | 182                                                                                 | 0                                                                                   |
| Sign Control            |                                                                                   | Stop                                                                              |                                                                                   |                                                                                   | Stop                                                                              |                                                                                   |                                                                                    | Free                                                                                |                                                                                     |                                                                                     | Free                                                                                |                                                                                     |

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 60.2% ICU Level of Service B

Analysis Period (min) 15

# HCM Unsignalized Intersection Capacity Analysis

## 7: Mt. Harmony Church Rd & Stevens Mill Rd

Stallings Farms TIA  
2032 Build AM

|                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                                   |  |  |  |  |  |  |  |  |  |  |  |  |
| Movement                          | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |                                                                                   |  |                                                                                   |  |  |                                                                                   |                                                                                    |  |                                                                                     |  |  |                                                                                     |
| Traffic Volume (veh/h)            | 11                                                                                | 6                                                                                 | 4                                                                                 | 61                                                                                | 22                                                                                | 418                                                                               | 9                                                                                  | 142                                                                                 | 67                                                                                  | 201                                                                                 | 98                                                                                  | 24                                                                                  |
| Future Volume (Veh/h)             | 11                                                                                | 6                                                                                 | 4                                                                                 | 61                                                                                | 22                                                                                | 418                                                                               | 9                                                                                  | 142                                                                                 | 67                                                                                  | 201                                                                                 | 98                                                                                  | 24                                                                                  |
| Sign Control                      |                                                                                   | Stop                                                                              |                                                                                   |                                                                                   | Stop                                                                              |                                                                                   |                                                                                    | Free                                                                                |                                                                                     |                                                                                     | Free                                                                                |                                                                                     |
| Grade                             |                                                                                   | 0%                                                                                |                                                                                   |                                                                                   | 0%                                                                                |                                                                                   |                                                                                    | 0%                                                                                  |                                                                                     |                                                                                     | 0%                                                                                  |                                                                                     |
| Peak Hour Factor                  | 0.48                                                                              | 0.38                                                                              | 0.25                                                                              | 0.60                                                                              | 0.69                                                                              | 0.77                                                                              | 0.38                                                                               | 0.65                                                                                | 0.62                                                                                | 0.66                                                                                | 0.70                                                                                | 0.57                                                                                |
| Hourly flow rate (vph)            | 23                                                                                | 16                                                                                | 16                                                                                | 102                                                                               | 32                                                                                | 543                                                                               | 24                                                                                 | 218                                                                                 | 108                                                                                 | 305                                                                                 | 140                                                                                 | 42                                                                                  |
| Pedestrians                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Width (ft)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Walking Speed (ft/s)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Percent Blockage                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Right turn flare (veh)            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Median type                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    | None                                                                                |                                                                                     |                                                                                     | None                                                                                |                                                                                     |
| Median storage veh                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Upstream signal (ft)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| pX, platoon unblocked             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| vC, conflicting volume            | 1650                                                                              | 1145                                                                              | 161                                                                               | 1094                                                                              | 1112                                                                              | 272                                                                               | 182                                                                                |                                                                                     |                                                                                     | 326                                                                                 |                                                                                     |                                                                                     |
| vC1, stage 1 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| vC2, stage 2 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| vCu, unblocked vol                | 1650                                                                              | 1145                                                                              | 161                                                                               | 1094                                                                              | 1112                                                                              | 272                                                                               | 182                                                                                |                                                                                     |                                                                                     | 326                                                                                 |                                                                                     |                                                                                     |
| tC, single (s)                    | 7.3                                                                               | 6.8                                                                               | 6.7                                                                               | 7.1                                                                               | 7.1                                                                               | 6.3                                                                               | 4.1                                                                                |                                                                                     |                                                                                     | 4.1                                                                                 |                                                                                     |                                                                                     |
| tC, 2 stage (s)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| tF (s)                            | 3.7                                                                               | 4.3                                                                               | 3.8                                                                               | 3.5                                                                               | 4.5                                                                               | 3.4                                                                               | 2.2                                                                                |                                                                                     |                                                                                     | 2.2                                                                                 |                                                                                     |                                                                                     |
| p0 queue free %                   | 0                                                                                 | 88                                                                                | 98                                                                                | 25                                                                                | 74                                                                                | 28                                                                                | 98                                                                                 |                                                                                     |                                                                                     | 75                                                                                  |                                                                                     |                                                                                     |
| cM capacity (veh/h)               | 13                                                                                | 130                                                                               | 773                                                                               | 136                                                                               | 123                                                                               | 755                                                                               | 1393                                                                               |                                                                                     |                                                                                     | 1234                                                                                |                                                                                     |                                                                                     |
| Direction, Lane #                 | EB 1                                                                              | WB 1                                                                              | WB 2                                                                              | NB 1                                                                              | SB 1                                                                              | SB 2                                                                              |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Total                      | 55                                                                                | 102                                                                               | 575                                                                               | 350                                                                               | 305                                                                               | 182                                                                               |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Left                       | 23                                                                                | 102                                                                               | 0                                                                                 | 24                                                                                | 305                                                                               | 0                                                                                 |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Right                      | 16                                                                                | 0                                                                                 | 543                                                                               | 108                                                                               | 0                                                                                 | 42                                                                                |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| cSH                               | 29                                                                                | 136                                                                               | 587                                                                               | 1393                                                                              | 1234                                                                              | 1700                                                                              |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume to Capacity                | 1.89                                                                              | 0.75                                                                              | 0.98                                                                              | 0.02                                                                              | 0.25                                                                              | 0.11                                                                              |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Queue Length 95th (ft)            | 161                                                                               | 111                                                                               | 348                                                                               | 1                                                                                 | 24                                                                                | 0                                                                                 |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Control Delay (s)                 | 712.7                                                                             | 85.7                                                                              | 58.6                                                                              | 0.7                                                                               | 8.9                                                                               | 0.0                                                                               |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane LOS                          | F                                                                                 | F                                                                                 | F                                                                                 | A                                                                                 | A                                                                                 |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Approach Delay (s)                | 712.7                                                                             | 62.7                                                                              |                                                                                   | 0.7                                                                               | 5.6                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Approach LOS                      | F                                                                                 | F                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Average Delay                     |                                                                                   |                                                                                   | 53.9                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 60.2%                                                                             |                                                                                   | ICU Level of Service                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |                                                                                     |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

Lanes, Volumes, Timings  
8: Oakspring Rd & Stevens Mill Rd

Stallings Farms TIA  
2032 Build AM

|                                   |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group                        | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | NBL                                                                               | NBR                                                                               |
| Lane Configurations               |  |  |                                                                                   |  |  |  |
| Traffic Volume (vph)              | 348                                                                               | 451                                                                               | 217                                                                               | 737                                                                               | 342                                                                               | 118                                                                               |
| Future Volume (vph)               | 348                                                                               | 451                                                                               | 217                                                                               | 737                                                                               | 342                                                                               | 118                                                                               |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Storage Length (ft)               |                                                                                   | 100                                                                               | 0                                                                                 |                                                                                   | 0                                                                                 | 100                                                                               |
| Storage Lanes                     |                                                                                   | 1                                                                                 | 0                                                                                 |                                                                                   | 1                                                                                 | 1                                                                                 |
| Taper Length (ft)                 |                                                                                   |                                                                                   | 25                                                                                |                                                                                   | 25                                                                                |                                                                                   |
| Lane Util. Factor                 | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Frt                               |                                                                                   | 0.850                                                                             |                                                                                   |                                                                                   |                                                                                   | 0.850                                                                             |
| Flt Protected                     |                                                                                   |                                                                                   |                                                                                   | 0.990                                                                             | 0.950                                                                             |                                                                                   |
| Satd. Flow (prot)                 | 1827                                                                              | 1583                                                                              | 0                                                                                 | 1844                                                                              | 1719                                                                              | 1442                                                                              |
| Flt Permitted                     |                                                                                   |                                                                                   |                                                                                   | 0.990                                                                             | 0.950                                                                             |                                                                                   |
| Satd. Flow (perm)                 | 1827                                                                              | 1583                                                                              | 0                                                                                 | 1844                                                                              | 1719                                                                              | 1442                                                                              |
| Link Speed (mph)                  | 45                                                                                |                                                                                   |                                                                                   | 45                                                                                | 35                                                                                |                                                                                   |
| Link Distance (ft)                | 940                                                                               |                                                                                   |                                                                                   | 594                                                                               | 477                                                                               |                                                                                   |
| Travel Time (s)                   | 14.2                                                                              |                                                                                   |                                                                                   | 9.0                                                                               | 9.3                                                                               |                                                                                   |
| Peak Hour Factor                  | 0.59                                                                              | 0.86                                                                              | 0.81                                                                              | 0.74                                                                              | 0.90                                                                              | 0.81                                                                              |
| Heavy Vehicles (%)                | 4%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                | 5%                                                                                | 12%                                                                               |
| Adj. Flow (vph)                   | 590                                                                               | 524                                                                               | 268                                                                               | 996                                                                               | 380                                                                               | 146                                                                               |
| Shared Lane Traffic (%)           |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)             | 590                                                                               | 524                                                                               | 0                                                                                 | 1264                                                                              | 380                                                                               | 146                                                                               |
| Sign Control                      | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              | Stop                                                                              |                                                                                   |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Area Type:                        | Other                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Control Type:                     | Unsignalized                                                                      |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization | 98.1%                                                                             |                                                                                   |                                                                                   | ICU Level of Service F                                                            |                                                                                   |                                                                                   |
| Analysis Period (min)             | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |

# HCM Unsignalized Intersection Capacity Analysis 8: Oakspring Rd & Stevens Mill Rd

Stallings Farms TIA  
2032 Build AM

|                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|                                   |  |  |  |  |  |  |
| Movement                          | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | NBL                                                                               | NBR                                                                               |
| Lane Configurations               |  |  |                                                                                   |  |  |  |
| Traffic Volume (veh/h)            | 348                                                                               | 451                                                                               | 217                                                                               | 737                                                                               | 342                                                                               | 118                                                                               |
| Future Volume (Veh/h)             | 348                                                                               | 451                                                                               | 217                                                                               | 737                                                                               | 342                                                                               | 118                                                                               |
| Sign Control                      | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              | Stop                                                                              |                                                                                   |
| Grade                             | 0%                                                                                |                                                                                   |                                                                                   | 0%                                                                                | 0%                                                                                |                                                                                   |
| Peak Hour Factor                  | 0.59                                                                              | 0.86                                                                              | 0.81                                                                              | 0.74                                                                              | 0.90                                                                              | 0.81                                                                              |
| Hourly flow rate (vph)            | 590                                                                               | 524                                                                               | 268                                                                               | 996                                                                               | 380                                                                               | 146                                                                               |
| Pedestrians                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Width (ft)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Walking Speed (ft/s)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Percent Blockage                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Right turn flare (veh)            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 4                                                                                 |
| Median type                       | None                                                                              |                                                                                   |                                                                                   | None                                                                              |                                                                                   |                                                                                   |
| Median storage (veh)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Upstream signal (ft)              | 940                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| pX, platoon unblocked             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC, conflicting volume            |                                                                                   |                                                                                   | 1114                                                                              |                                                                                   | 2122                                                                              | 590                                                                               |
| vC1, stage 1 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC2, stage 2 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vCu, unblocked vol                |                                                                                   |                                                                                   | 1114                                                                              |                                                                                   | 2122                                                                              | 590                                                                               |
| tC, single (s)                    |                                                                                   |                                                                                   | 4.1                                                                               |                                                                                   | 6.4                                                                               | 6.3                                                                               |
| tC, 2 stage (s)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| tF (s)                            |                                                                                   |                                                                                   | 2.2                                                                               |                                                                                   | 3.5                                                                               | 3.4                                                                               |
| p0 queue free %                   |                                                                                   |                                                                                   | 57                                                                                |                                                                                   | 0                                                                                 | 70                                                                                |
| cM capacity (veh/h)               |                                                                                   |                                                                                   | 627                                                                               |                                                                                   | 31                                                                                | 489                                                                               |
| Direction, Lane #                 | EB 1                                                                              | EB 2                                                                              | WB 1                                                                              | NB 1                                                                              |                                                                                   |                                                                                   |
| Volume Total                      | 590                                                                               | 524                                                                               | 1264                                                                              | 526                                                                               |                                                                                   |                                                                                   |
| Volume Left                       | 0                                                                                 | 0                                                                                 | 268                                                                               | 380                                                                               |                                                                                   |                                                                                   |
| Volume Right                      | 0                                                                                 | 524                                                                               | 0                                                                                 | 146                                                                               |                                                                                   |                                                                                   |
| cSH                               | 1700                                                                              | 1700                                                                              | 627                                                                               | 42                                                                                |                                                                                   |                                                                                   |
| Volume to Capacity                | 0.35                                                                              | 0.31                                                                              | 0.43                                                                              | 12.57                                                                             |                                                                                   |                                                                                   |
| Queue Length 95th (ft)            | 0                                                                                 | 0                                                                                 | 53                                                                                | Err                                                                               |                                                                                   |                                                                                   |
| Control Delay (s)                 | 0.0                                                                               | 0.0                                                                               | 15.0                                                                              | Err                                                                               |                                                                                   |                                                                                   |
| Lane LOS                          |                                                                                   |                                                                                   | B                                                                                 | F                                                                                 |                                                                                   |                                                                                   |
| Approach Delay (s)                | 0.0                                                                               |                                                                                   | 15.0                                                                              | Err                                                                               |                                                                                   |                                                                                   |
| Approach LOS                      |                                                                                   |                                                                                   |                                                                                   | F                                                                                 |                                                                                   |                                                                                   |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Average Delay                     |                                                                                   |                                                                                   | 1817.6                                                                            |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 98.1%                                                                             | ICU Level of Service                                                              |                                                                                   | F                                                                                 |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |

Lanes, Volumes, Timings  
9: Stallings Rd & Access #1

Stallings Farms TIA  
2032 Build AM

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations     |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                   |                                                                                    |  |                                                                                     |                                                                                     |  |                                                                                     |
| Traffic Volume (vph)    | 12                                                                                | 0                                                                                 | 24                                                                                | 51                                                                                | 0                                                                                 | 15                                                                                | 8                                                                                  | 398                                                                                 | 17                                                                                  | 5                                                                                   | 698                                                                                 | 4                                                                                   |
| Future Volume (vph)     | 12                                                                                | 0                                                                                 | 24                                                                                | 51                                                                                | 0                                                                                 | 15                                                                                | 8                                                                                  | 398                                                                                 | 17                                                                                  | 5                                                                                   | 698                                                                                 | 4                                                                                   |
| Ideal Flow (vphpl)      | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                               | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)     | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 100                                                                                |                                                                                     | 100                                                                                 | 0                                                                                   |                                                                                     | 100                                                                                 |
| Storage Lanes           | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                  |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     | 0                                                                                   |
| Taper Length (ft)       | 25                                                                                |                                                                                   |                                                                                   | 25                                                                                |                                                                                   |                                                                                   | 100                                                                                |                                                                                     |                                                                                     | 25                                                                                  |                                                                                     |                                                                                     |
| Lane Util. Factor       | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                               | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Frt                     |                                                                                   | 0.909                                                                             |                                                                                   |                                                                                   | 0.969                                                                             |                                                                                   |                                                                                    | 0.995                                                                               |                                                                                     |                                                                                     | 0.999                                                                               |                                                                                     |
| Flt Protected           |                                                                                   | 0.984                                                                             |                                                                                   |                                                                                   | 0.963                                                                             |                                                                                   |                                                                                    | 0.999                                                                               |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Satd. Flow (prot)       | 0                                                                                 | 1666                                                                              | 0                                                                                 | 0                                                                                 | 1738                                                                              | 0                                                                                 | 0                                                                                  | 1785                                                                                | 0                                                                                   | 0                                                                                   | 1843                                                                                | 0                                                                                   |
| Flt Permitted           |                                                                                   | 0.984                                                                             |                                                                                   |                                                                                   | 0.963                                                                             |                                                                                   |                                                                                    | 0.999                                                                               |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Satd. Flow (perm)       | 0                                                                                 | 1666                                                                              | 0                                                                                 | 0                                                                                 | 1738                                                                              | 0                                                                                 | 0                                                                                  | 1785                                                                                | 0                                                                                   | 0                                                                                   | 1843                                                                                | 0                                                                                   |
| Link Speed (mph)        |                                                                                   | 25                                                                                |                                                                                   |                                                                                   | 25                                                                                |                                                                                   |                                                                                    | 45                                                                                  |                                                                                     |                                                                                     | 45                                                                                  |                                                                                     |
| Link Distance (ft)      |                                                                                   | 1027                                                                              |                                                                                   |                                                                                   | 1025                                                                              |                                                                                   |                                                                                    | 1224                                                                                |                                                                                     |                                                                                     | 447                                                                                 |                                                                                     |
| Travel Time (s)         |                                                                                   | 28.0                                                                              |                                                                                   |                                                                                   | 28.0                                                                              |                                                                                   |                                                                                    | 18.5                                                                                |                                                                                     |                                                                                     | 6.8                                                                                 |                                                                                     |
| Peak Hour Factor        | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                               | 0.81                                                                                | 0.90                                                                                | 0.90                                                                                | 0.75                                                                                | 0.90                                                                                |
| Heavy Vehicles (%)      | 2%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                 | 6%                                                                                  | 2%                                                                                  | 2%                                                                                  | 3%                                                                                  | 2%                                                                                  |
| Adj. Flow (vph)         | 13                                                                                | 0                                                                                 | 27                                                                                | 57                                                                                | 0                                                                                 | 17                                                                                | 9                                                                                  | 491                                                                                 | 19                                                                                  | 6                                                                                   | 931                                                                                 | 4                                                                                   |
| Shared Lane Traffic (%) |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)   | 0                                                                                 | 40                                                                                | 0                                                                                 | 0                                                                                 | 74                                                                                | 0                                                                                 | 0                                                                                  | 519                                                                                 | 0                                                                                   | 0                                                                                   | 941                                                                                 | 0                                                                                   |
| Sign Control            |                                                                                   | Stop                                                                              |                                                                                   |                                                                                   | Stop                                                                              |                                                                                   |                                                                                    | Free                                                                                |                                                                                     |                                                                                     | Free                                                                                |                                                                                     |

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 54.0% ICU Level of Service A

Analysis Period (min) 15

# HCM Unsignalized Intersection Capacity Analysis

## 9: Stallings Rd & Access #1

Stallings Farms TIA

2032 Build AM

|                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                                   |  |  |  |  |  |  |  |  |  |  |  |  |
| Movement                          | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                   |                                                                                    |  |                                                                                     |                                                                                     |  |                                                                                     |
| Traffic Volume (veh/h)            | 12                                                                                | 0                                                                                 | 24                                                                                | 51                                                                                | 0                                                                                 | 15                                                                                | 8                                                                                  | 398                                                                                 | 17                                                                                  | 5                                                                                   | 698                                                                                 | 4                                                                                   |
| Future Volume (Veh/h)             | 12                                                                                | 0                                                                                 | 24                                                                                | 51                                                                                | 0                                                                                 | 15                                                                                | 8                                                                                  | 398                                                                                 | 17                                                                                  | 5                                                                                   | 698                                                                                 | 4                                                                                   |
| Sign Control                      |                                                                                   | Stop                                                                              |                                                                                   |                                                                                   | Stop                                                                              |                                                                                   |                                                                                    | Free                                                                                |                                                                                     |                                                                                     | Free                                                                                |                                                                                     |
| Grade                             |                                                                                   | 0%                                                                                |                                                                                   |                                                                                   | 0%                                                                                |                                                                                   |                                                                                    | 0%                                                                                  |                                                                                     |                                                                                     | 0%                                                                                  |                                                                                     |
| Peak Hour Factor                  | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                               | 0.81                                                                                | 0.90                                                                                | 0.90                                                                                | 0.75                                                                                | 0.90                                                                                |
| Hourly flow rate (vph)            | 13                                                                                | 0                                                                                 | 27                                                                                | 57                                                                                | 0                                                                                 | 17                                                                                | 9                                                                                  | 491                                                                                 | 19                                                                                  | 6                                                                                   | 931                                                                                 | 4                                                                                   |
| Pedestrians                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Width (ft)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Walking Speed (ft/s)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Percent Blockage                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Right turn flare (veh)            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Median type                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    | None                                                                                |                                                                                     |                                                                                     | None                                                                                |                                                                                     |
| Median storage (veh)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Upstream signal (ft)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 447                                                                                 |                                                                                     |
| pX, platoon unblocked             | 0.68                                                                              | 0.68                                                                              | 0.68                                                                              | 0.68                                                                              | 0.68                                                                              |                                                                                   | 0.68                                                                               |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| vC, conflicting volume            | 1480                                                                              | 1473                                                                              | 933                                                                               | 1490                                                                              | 1466                                                                              | 500                                                                               | 935                                                                                |                                                                                     |                                                                                     | 510                                                                                 |                                                                                     |                                                                                     |
| vC1, stage 1 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| vC2, stage 2 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| vCu, unblocked vol                | 1471                                                                              | 1460                                                                              | 668                                                                               | 1486                                                                              | 1449                                                                              | 500                                                                               | 671                                                                                |                                                                                     |                                                                                     | 510                                                                                 |                                                                                     |                                                                                     |
| tC, single (s)                    | 7.1                                                                               | 6.5                                                                               | 6.2                                                                               | 7.1                                                                               | 6.5                                                                               | 6.2                                                                               | 4.1                                                                                |                                                                                     |                                                                                     | 4.1                                                                                 |                                                                                     |                                                                                     |
| tC, 2 stage (s)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| tF (s)                            | 3.5                                                                               | 4.0                                                                               | 3.3                                                                               | 3.5                                                                               | 4.0                                                                               | 3.3                                                                               | 2.2                                                                                |                                                                                     |                                                                                     | 2.2                                                                                 |                                                                                     |                                                                                     |
| p0 queue free %                   | 81                                                                                | 100                                                                               | 91                                                                                | 9                                                                                 | 100                                                                               | 97                                                                                | 99                                                                                 |                                                                                     |                                                                                     | 99                                                                                  |                                                                                     |                                                                                     |
| cM capacity (veh/h)               | 68                                                                                | 86                                                                                | 312                                                                               | 63                                                                                | 87                                                                                | 570                                                                               | 627                                                                                |                                                                                     |                                                                                     | 1055                                                                                |                                                                                     |                                                                                     |
| Direction, Lane #                 | EB 1                                                                              | WB 1                                                                              | NB 1                                                                              | SB 1                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Total                      | 40                                                                                | 74                                                                                | 519                                                                               | 941                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Left                       | 13                                                                                | 57                                                                                | 9                                                                                 | 6                                                                                 |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Right                      | 27                                                                                | 17                                                                                | 19                                                                                | 4                                                                                 |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| cSH                               | 145                                                                               | 79                                                                                | 627                                                                               | 1055                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume to Capacity                | 0.28                                                                              | 0.94                                                                              | 0.01                                                                              | 0.01                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Queue Length 95th (ft)            | 27                                                                                | 124                                                                               | 1                                                                                 | 0                                                                                 |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Control Delay (s)                 | 39.1                                                                              | 175.1                                                                             | 0.4                                                                               | 0.2                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane LOS                          | E                                                                                 | F                                                                                 | A                                                                                 | A                                                                                 |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Approach Delay (s)                | 39.1                                                                              | 175.1                                                                             | 0.4                                                                               | 0.2                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Approach LOS                      | E                                                                                 | F                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Average Delay                     |                                                                                   |                                                                                   | 9.5                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 54.0%                                                                             |                                                                                   | ICU Level of Service                                                              |                                                                                   |                                                                                    |                                                                                     | A                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |



Lanes, Volumes, Timings  
10: Oakspring Rd & Access #2

Stallings Farms TIA  
2032 Build AM

|                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|                                   |  |  |  |  |  |  |
| Lane Group                        | EBL                                                                               | EBR                                                                               | NBL                                                                               | NBT                                                                               | SBT                                                                               | SBR                                                                               |
| Lane Configurations               |  |                                                                                   |                                                                                   |  |  |                                                                                   |
| Traffic Volume (vph)              | 6                                                                                 | 6                                                                                 | 3                                                                                 | 453                                                                               | 666                                                                               | 2                                                                                 |
| Future Volume (vph)               | 6                                                                                 | 6                                                                                 | 3                                                                                 | 453                                                                               | 666                                                                               | 2                                                                                 |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Lane Util. Factor                 | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Frt                               | 0.932                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Flt Protected                     | 0.976                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Satd. Flow (prot)                 | 1694                                                                              | 0                                                                                 | 0                                                                                 | 1776                                                                              | 1863                                                                              | 0                                                                                 |
| Flt Permitted                     | 0.976                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Satd. Flow (perm)                 | 1694                                                                              | 0                                                                                 | 0                                                                                 | 1776                                                                              | 1863                                                                              | 0                                                                                 |
| Link Speed (mph)                  | 25                                                                                |                                                                                   |                                                                                   | 35                                                                                | 35                                                                                |                                                                                   |
| Link Distance (ft)                | 1033                                                                              |                                                                                   |                                                                                   | 489                                                                               | 477                                                                               |                                                                                   |
| Travel Time (s)                   | 28.2                                                                              |                                                                                   |                                                                                   | 9.5                                                                               | 9.3                                                                               |                                                                                   |
| Peak Hour Factor                  | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.88                                                                              | 0.85                                                                              | 0.90                                                                              |
| Heavy Vehicles (%)                | 2%                                                                                | 2%                                                                                | 2%                                                                                | 7%                                                                                | 2%                                                                                | 2%                                                                                |
| Adj. Flow (vph)                   | 7                                                                                 | 7                                                                                 | 3                                                                                 | 515                                                                               | 784                                                                               | 2                                                                                 |
| Shared Lane Traffic (%)           |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)             | 14                                                                                | 0                                                                                 | 0                                                                                 | 518                                                                               | 786                                                                               | 0                                                                                 |
| Sign Control                      | Stop                                                                              |                                                                                   |                                                                                   | Free                                                                              | Free                                                                              |                                                                                   |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Area Type:                        | Other                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Control Type:                     | Unsignalized                                                                      |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization | 45.2%                                                                             |                                                                                   |                                                                                   | ICU Level of Service A                                                            |                                                                                   |                                                                                   |
| Analysis Period (min)             | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |

# HCM Unsignalized Intersection Capacity Analysis

## 10: Oakspring Rd & Access #2

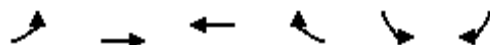
Stallings Farms TIA  
2032 Build AM



| Movement                          | EBL  | EBR   | NBL  | NBT                  | SBT  | SBR  |
|-----------------------------------|------|-------|------|----------------------|------|------|
| Lane Configurations               |      |       |      |                      |      |      |
| Traffic Volume (veh/h)            | 6    | 6     | 3    | 453                  | 666  | 2    |
| Future Volume (Veh/h)             | 6    | 6     | 3    | 453                  | 666  | 2    |
| Sign Control                      | Stop |       |      | Free                 | Free |      |
| Grade                             | 0%   |       |      | 0%                   | 0%   |      |
| Peak Hour Factor                  | 0.90 | 0.90  | 0.90 | 0.88                 | 0.85 | 0.90 |
| Hourly flow rate (vph)            | 7    | 7     | 3    | 515                  | 784  | 2    |
| Pedestrians                       |      |       |      |                      |      |      |
| Lane Width (ft)                   |      |       |      |                      |      |      |
| Walking Speed (ft/s)              |      |       |      |                      |      |      |
| Percent Blockage                  |      |       |      |                      |      |      |
| Right turn flare (veh)            |      |       |      |                      |      |      |
| Median type                       |      |       |      | None                 | None |      |
| Median storage (veh)              |      |       |      |                      |      |      |
| Upstream signal (ft)              |      |       |      |                      |      |      |
| pX, platoon unblocked             |      |       |      |                      |      |      |
| vC, conflicting volume            | 1306 | 785   | 786  |                      |      |      |
| vC1, stage 1 conf vol             |      |       |      |                      |      |      |
| vC2, stage 2 conf vol             |      |       |      |                      |      |      |
| vCu, unblocked vol                | 1306 | 785   | 786  |                      |      |      |
| tC, single (s)                    | 6.4  | 6.2   | 4.1  |                      |      |      |
| tC, 2 stage (s)                   |      |       |      |                      |      |      |
| tF (s)                            | 3.5  | 3.3   | 2.2  |                      |      |      |
| p0 queue free %                   | 96   | 98    | 100  |                      |      |      |
| cM capacity (veh/h)               | 176  | 393   | 833  |                      |      |      |
| Direction, Lane #                 | EB 1 | NB 1  | SB 1 |                      |      |      |
| Volume Total                      | 14   | 518   | 786  |                      |      |      |
| Volume Left                       | 7    | 3     | 0    |                      |      |      |
| Volume Right                      | 7    | 0     | 2    |                      |      |      |
| cSH                               | 243  | 833   | 1700 |                      |      |      |
| Volume to Capacity                | 0.06 | 0.00  | 0.46 |                      |      |      |
| Queue Length 95th (ft)            | 5    | 0     | 0    |                      |      |      |
| Control Delay (s)                 | 20.7 | 0.1   | 0.0  |                      |      |      |
| Lane LOS                          | C    | A     |      |                      |      |      |
| Approach Delay (s)                | 20.7 | 0.1   | 0.0  |                      |      |      |
| Approach LOS                      | C    |       |      |                      |      |      |
| Intersection Summary              |      |       |      |                      |      |      |
| Average Delay                     |      |       | 0.3  |                      |      |      |
| Intersection Capacity Utilization |      | 45.2% |      | ICU Level of Service |      | A    |
| Analysis Period (min)             |      | 15    |      |                      |      |      |

Lanes, Volumes, Timings  
11: Sweet Birch Dr & Access #3

Stallings Farms TIA  
2032 Build AM



| Lane Group              | EBL  | EBT   | WBT  | WBR  | SBL   | SBR  |
|-------------------------|------|-------|------|------|-------|------|
| Lane Configurations     |      |       |      |      |       |      |
| Traffic Volume (vph)    | 2    | 29    | 85   | 0    | 0     | 7    |
| Future Volume (vph)     | 2    | 29    | 85   | 0    | 0     | 7    |
| Ideal Flow (vphpl)      | 1900 | 1900  | 1900 | 1900 | 1900  | 1900 |
| Lane Util. Factor       | 1.00 | 1.00  | 1.00 | 1.00 | 1.00  | 1.00 |
| Frt                     |      |       |      |      | 0.865 |      |
| Flt Protected           |      | 0.997 |      |      |       |      |
| Satd. Flow (prot)       | 0    | 1857  | 1863 | 0    | 1611  | 0    |
| Flt Permitted           |      | 0.997 |      |      |       |      |
| Satd. Flow (perm)       | 0    | 1857  | 1863 | 0    | 1611  | 0    |
| Link Speed (mph)        |      | 25    | 25   |      | 25    |      |
| Link Distance (ft)      |      | 333   | 341  |      | 1010  |      |
| Travel Time (s)         |      | 9.1   | 9.3  |      | 27.5  |      |
| Peak Hour Factor        | 0.90 | 0.90  | 0.90 | 0.90 | 0.90  | 0.90 |
| Adj. Flow (vph)         | 2    | 32    | 94   | 0    | 0     | 8    |
| Shared Lane Traffic (%) |      |       |      |      |       |      |
| Lane Group Flow (vph)   | 0    | 34    | 94   | 0    | 8     | 0    |
| Sign Control            |      | Free  | Free |      | Stop  |      |

Intersection Summary

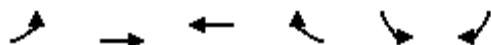
|                                   |                        |
|-----------------------------------|------------------------|
| Area Type:                        | Other                  |
| Control Type:                     | Unsignalized           |
| Intersection Capacity Utilization | 14.5%                  |
| Analysis Period (min)             | 15                     |
|                                   | ICU Level of Service A |

# HCM Unsignalized Intersection Capacity Analysis

## 11: Sweet Birch Dr & Access #3

Stallings Farms TIA

2032 Build AM



| Movement                          | EBL  | EBT                                                                               | WBT                                                                               | WBR                  | SBL                                                                               | SBR  |
|-----------------------------------|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|----------------------|-----------------------------------------------------------------------------------|------|
| Lane Configurations               |      |  |  |                      |  |      |
| Traffic Volume (veh/h)            | 2    | 29                                                                                | 85                                                                                | 0                    | 0                                                                                 | 7    |
| Future Volume (Veh/h)             | 2    | 29                                                                                | 85                                                                                | 0                    | 0                                                                                 | 7    |
| Sign Control                      |      | Free                                                                              | Free                                                                              |                      | Stop                                                                              |      |
| Grade                             |      | 0%                                                                                | 0%                                                                                |                      | 0%                                                                                |      |
| Peak Hour Factor                  | 0.90 | 0.90                                                                              | 0.90                                                                              | 0.90                 | 0.90                                                                              | 0.90 |
| Hourly flow rate (vph)            | 2    | 32                                                                                | 94                                                                                | 0                    | 0                                                                                 | 8    |
| Pedestrians                       |      |                                                                                   |                                                                                   |                      |                                                                                   |      |
| Lane Width (ft)                   |      |                                                                                   |                                                                                   |                      |                                                                                   |      |
| Walking Speed (ft/s)              |      |                                                                                   |                                                                                   |                      |                                                                                   |      |
| Percent Blockage                  |      |                                                                                   |                                                                                   |                      |                                                                                   |      |
| Right turn flare (veh)            |      |                                                                                   |                                                                                   |                      |                                                                                   |      |
| Median type                       |      | None                                                                              | None                                                                              |                      |                                                                                   |      |
| Median storage veh)               |      |                                                                                   |                                                                                   |                      |                                                                                   |      |
| Upstream signal (ft)              |      |                                                                                   |                                                                                   |                      |                                                                                   |      |
| pX, platoon unblocked             |      |                                                                                   |                                                                                   |                      |                                                                                   |      |
| vC, conflicting volume            | 94   |                                                                                   |                                                                                   |                      | 130                                                                               | 94   |
| vC1, stage 1 conf vol             |      |                                                                                   |                                                                                   |                      |                                                                                   |      |
| vC2, stage 2 conf vol             |      |                                                                                   |                                                                                   |                      |                                                                                   |      |
| vCu, unblocked vol                | 94   |                                                                                   |                                                                                   |                      | 130                                                                               | 94   |
| tC, single (s)                    | 4.1  |                                                                                   |                                                                                   |                      | 6.4                                                                               | 6.2  |
| tC, 2 stage (s)                   |      |                                                                                   |                                                                                   |                      |                                                                                   |      |
| tF (s)                            | 2.2  |                                                                                   |                                                                                   |                      | 3.5                                                                               | 3.3  |
| p0 queue free %                   | 100  |                                                                                   |                                                                                   |                      | 100                                                                               | 99   |
| cM capacity (veh/h)               | 1500 |                                                                                   |                                                                                   |                      | 863                                                                               | 963  |
| Direction, Lane #                 | EB 1 | WB 1                                                                              | SB 1                                                                              |                      |                                                                                   |      |
| Volume Total                      | 34   | 94                                                                                | 8                                                                                 |                      |                                                                                   |      |
| Volume Left                       | 2    | 0                                                                                 | 0                                                                                 |                      |                                                                                   |      |
| Volume Right                      | 0    | 0                                                                                 | 8                                                                                 |                      |                                                                                   |      |
| cSH                               | 1500 | 1700                                                                              | 963                                                                               |                      |                                                                                   |      |
| Volume to Capacity                | 0.00 | 0.06                                                                              | 0.01                                                                              |                      |                                                                                   |      |
| Queue Length 95th (ft)            | 0    | 0                                                                                 | 1                                                                                 |                      |                                                                                   |      |
| Control Delay (s)                 | 0.4  | 0.0                                                                               | 8.8                                                                               |                      |                                                                                   |      |
| Lane LOS                          | A    |                                                                                   | A                                                                                 |                      |                                                                                   |      |
| Approach Delay (s)                | 0.4  | 0.0                                                                               | 8.8                                                                               |                      |                                                                                   |      |
| Approach LOS                      |      |                                                                                   | A                                                                                 |                      |                                                                                   |      |
| Intersection Summary              |      |                                                                                   |                                                                                   |                      |                                                                                   |      |
| Average Delay                     |      |                                                                                   | 0.6                                                                               |                      |                                                                                   |      |
| Intersection Capacity Utilization |      |                                                                                   | 14.5%                                                                             | ICU Level of Service |                                                                                   | A    |
| Analysis Period (min)             |      |                                                                                   | 15                                                                                |                      |                                                                                   |      |

Lanes, Volumes, Timings  
1: Stallings Rd & Stevens Mill Rd

Stallings Farms TIA  
2032 Build PM

|                         |  |       |       |       |       |       |       |       |      |       |       |      |
|-------------------------|------------------------------------------------------------------------------------|-------|-------|-------|-------|-------|-------|-------|------|-------|-------|------|
| Lane Group              | EBL                                                                                | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR  | SBL   | SBT   | SBR  |
| Lane Configurations     |                                                                                    |       |       |       |       |       |       |       |      |       |       |      |
| Traffic Volume (vph)    | 19                                                                                 | 252   | 104   | 208   | 82    | 127   | 97    | 237   | 383  | 420   | 243   | 28   |
| Future Volume (vph)     | 19                                                                                 | 252   | 104   | 208   | 82    | 127   | 97    | 237   | 383  | 420   | 243   | 28   |
| Ideal Flow (vphpl)      | 1900                                                                               | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900 | 1900  | 1900  | 1900 |
| Storage Length (ft)     | 0                                                                                  |       | 100   | 250   |       | 300   | 150   |       | 250  | 225   |       | 0    |
| Storage Lanes           | 0                                                                                  |       | 1     | 1     |       | 1     | 1     |       | 0    | 1     |       | 0    |
| Taper Length (ft)       | 25                                                                                 |       |       | 100   |       |       | 100   |       |      | 100   |       |      |
| Lane Util. Factor       | 1.00                                                                               | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00 |
| Ped Bike Factor         |                                                                                    |       |       |       |       | 0.98  |       |       |      |       |       |      |
| Frt                     |                                                                                    |       | 0.850 |       |       | 0.850 |       | 0.907 |      |       | 0.985 |      |
| Flt Protected           |                                                                                    | 0.997 |       | 0.950 |       |       | 0.950 |       |      | 0.950 |       |      |
| Satd. Flow (prot)       | 0                                                                                  | 1840  | 1583  | 1719  | 1863  | 1583  | 1671  | 1683  | 0    | 1687  | 1819  | 0    |
| Flt Permitted           |                                                                                    | 0.976 |       | 0.364 |       |       | 0.552 |       |      | 0.289 |       |      |
| Satd. Flow (perm)       | 0                                                                                  | 1802  | 1583  | 659   | 1863  | 1550  | 971   | 1683  | 0    | 513   | 1819  | 0    |
| Right Turn on Red       |                                                                                    |       | No    |       |       | No    |       |       | No   |       |       | No   |
| Satd. Flow (RTOR)       |                                                                                    |       |       |       |       |       |       |       |      |       |       |      |
| Link Speed (mph)        |                                                                                    | 45    |       |       | 45    |       |       | 45    |      |       | 45    |      |
| Link Distance (ft)      |                                                                                    | 1672  |       |       | 940   |       |       | 486   |      |       | 1502  |      |
| Travel Time (s)         |                                                                                    | 25.3  |       |       | 14.2  |       |       | 7.4   |      |       | 22.8  |      |
| Confl. Bikes (#/hr)     |                                                                                    |       |       |       |       | 1     |       |       |      |       |       |      |
| Peak Hour Factor        | 0.90                                                                               | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  | 0.90 |
| Heavy Vehicles (%)      | 2%                                                                                 | 3%    | 2%    | 5%    | 2%    | 2%    | 8%    | 3%    | 2%   | 7%    | 3%    | 2%   |
| Adj. Flow (vph)         | 21                                                                                 | 280   | 116   | 231   | 91    | 141   | 108   | 263   | 426  | 467   | 270   | 31   |
| Shared Lane Traffic (%) |                                                                                    |       |       |       |       |       |       |       |      |       |       |      |
| Lane Group Flow (vph)   | 0                                                                                  | 301   | 116   | 231   | 91    | 141   | 108   | 689   | 0    | 467   | 301   | 0    |
| Turn Type               | Perm                                                                               | NA    | Perm  | Perm  | NA    | Perm  | Perm  | NA    |      | Perm  | NA    |      |
| Protected Phases        |                                                                                    | 4     |       |       | 8     |       |       | 2     |      |       | 6     |      |
| Permitted Phases        | 4                                                                                  |       | 4     | 8     |       | 8     | 2     |       |      | 6     |       |      |
| Detector Phase          | 4                                                                                  | 4     | 4     | 8     | 8     | 8     | 2     | 2     |      | 6     | 6     |      |
| Switch Phase            |                                                                                    |       |       |       |       |       |       |       |      |       |       |      |
| Minimum Initial (s)     | 7.0                                                                                | 7.0   | 7.0   | 7.0   | 7.0   | 7.0   | 12.0  | 12.0  |      | 12.0  | 12.0  |      |
| Minimum Split (s)       | 25.0                                                                               | 25.0  | 25.0  | 25.0  | 25.0  | 25.0  | 25.0  | 25.0  |      | 25.0  | 25.0  |      |
| Total Split (s)         | 35.0                                                                               | 35.0  | 35.0  | 35.0  | 35.0  | 35.0  | 75.0  | 75.0  |      | 75.0  | 75.0  |      |
| Total Split (%)         | 31.8%                                                                              | 31.8% | 31.8% | 31.8% | 31.8% | 31.8% | 68.2% | 68.2% |      | 68.2% | 68.2% |      |
| Maximum Green (s)       | 28.0                                                                               | 28.0  | 28.0  | 28.0  | 28.0  | 28.0  | 68.0  | 68.0  |      | 68.0  | 68.0  |      |
| Yellow Time (s)         | 5.0                                                                                | 5.0   | 5.0   | 5.0   | 5.0   | 5.0   | 5.0   | 5.0   |      | 5.0   | 5.0   |      |
| All-Red Time (s)        | 2.0                                                                                | 2.0   | 2.0   | 2.0   | 2.0   | 2.0   | 2.0   | 2.0   |      | 2.0   | 2.0   |      |
| Lost Time Adjust (s)    |                                                                                    | -2.0  | -2.0  | -2.0  | -2.0  | -2.0  | -2.0  | -2.0  |      | -2.0  | -2.0  |      |
| Total Lost Time (s)     |                                                                                    | 5.0   | 5.0   | 5.0   | 5.0   | 5.0   | 5.0   | 5.0   |      | 5.0   | 5.0   |      |
| Lead/Lag                |                                                                                    |       |       |       |       |       |       |       |      |       |       |      |
| Lead-Lag Optimize?      |                                                                                    |       |       |       |       |       |       |       |      |       |       |      |
| Vehicle Extension (s)   | 3.0                                                                                | 3.0   | 3.0   | 3.0   | 3.0   | 3.0   | 3.0   | 3.0   |      | 3.0   | 3.0   |      |
| Recall Mode             | None                                                                               | None  | None  | None  | None  | None  | Min   | Min   |      | Min   | Min   |      |
| Walk Time (s)           | 7.0                                                                                | 7.0   | 7.0   | 7.0   | 7.0   | 7.0   | 7.0   | 7.0   |      | 7.0   | 7.0   |      |
| Flash Dont Walk (s)     | 11.0                                                                               | 11.0  | 11.0  | 11.0  | 11.0  | 11.0  | 11.0  | 11.0  |      | 11.0  | 11.0  |      |
| Pedestrian Calls (#/hr) | 0                                                                                  | 0     | 0     | 0     | 0     | 0     | 0     | 0     |      | 0     | 0     |      |
| Act Effect Green (s)    |                                                                                    | 30.0  | 30.0  | 30.0  | 30.0  | 30.0  | 70.0  | 70.0  |      | 70.0  | 70.0  |      |
| Actuated g/C Ratio      |                                                                                    | 0.27  | 0.27  | 0.27  | 0.27  | 0.27  | 0.64  | 0.64  |      | 0.64  | 0.64  |      |
| v/c Ratio               |                                                                                    | 0.61  | 0.27  | 1.29  | 0.18  | 0.33  | 0.18  | 0.64  |      | 1.43  | 0.26  |      |

Lanes, Volumes, Timings  
1: Stallings Rd & Stevens Mill Rd

Stallings Farms TIA  
2032 Build PM

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Control Delay           |                                                                                   | 41.2                                                                              | 33.5                                                                              | 200.8                                                                             | 31.8                                                                              | 34.7                                                                              | 9.1                                                                                | 15.8                                                                                |                                                                                     | 233.9                                                                               | 9.4                                                                                 |                                                                                     |
| Queue Delay             |                                                                                   | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                | 0.0                                                                                 |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Delay             |                                                                                   | 41.2                                                                              | 33.5                                                                              | 200.8                                                                             | 31.8                                                                              | 34.7                                                                              | 9.1                                                                                | 15.8                                                                                |                                                                                     | 233.9                                                                               | 9.4                                                                                 |                                                                                     |
| LOS                     |                                                                                   | D                                                                                 | C                                                                                 | F                                                                                 | C                                                                                 | C                                                                                 | A                                                                                  | B                                                                                   |                                                                                     | F                                                                                   | A                                                                                   |                                                                                     |
| Approach Delay          |                                                                                   | 39.1                                                                              |                                                                                   |                                                                                   | 117.0                                                                             |                                                                                   |                                                                                    | 14.9                                                                                |                                                                                     |                                                                                     | 145.9                                                                               |                                                                                     |
| Approach LOS            |                                                                                   | D                                                                                 |                                                                                   |                                                                                   | F                                                                                 |                                                                                   |                                                                                    | B                                                                                   |                                                                                     |                                                                                     | F                                                                                   |                                                                                     |
| Queue Length 50th (ft)  |                                                                                   | 186                                                                               | 64                                                                                | ~208                                                                              | 49                                                                                | 80                                                                                | 29                                                                                 | 276                                                                                 |                                                                                     | ~448                                                                                | 85                                                                                  |                                                                                     |
| Queue Length 95th (ft)  |                                                                                   | 280                                                                               | 114                                                                               | #364                                                                              | 92                                                                                | 137                                                                               | 54                                                                                 | 399                                                                                 |                                                                                     | #420                                                                                | 128                                                                                 |                                                                                     |
| Internal Link Dist (ft) |                                                                                   | 1592                                                                              |                                                                                   |                                                                                   | 860                                                                               |                                                                                   |                                                                                    | 406                                                                                 |                                                                                     |                                                                                     | 1422                                                                                |                                                                                     |
| Turn Bay Length (ft)    |                                                                                   |                                                                                   | 100                                                                               | 250                                                                               |                                                                                   | 300                                                                               | 150                                                                                |                                                                                     |                                                                                     | 225                                                                                 |                                                                                     |                                                                                     |
| Base Capacity (vph)     |                                                                                   | 491                                                                               | 431                                                                               | 179                                                                               | 508                                                                               | 422                                                                               | 617                                                                                | 1071                                                                                |                                                                                     | 326                                                                                 | 1157                                                                                |                                                                                     |
| Starvation Cap Reductn  |                                                                                   | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                  | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     |
| Spillback Cap Reductn   |                                                                                   | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                  | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     |
| Storage Cap Reductn     |                                                                                   | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                  | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     |
| Reduced v/c Ratio       |                                                                                   | 0.61                                                                              | 0.27                                                                              | 1.29                                                                              | 0.18                                                                              | 0.33                                                                              | 0.18                                                                               | 0.64                                                                                |                                                                                     | 1.43                                                                                | 0.26                                                                                |                                                                                     |

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Natural Cycle: 110

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.43

Intersection Signal Delay: 79.5

Intersection LOS: E

Intersection Capacity Utilization 101.7%

ICU Level of Service G

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: Stallings Rd & Stevens Mill Rd

|                                                                                        |                                                                                          |
|----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
|  Ø2 |  Ø4 |
| 75 s                                                                                   | 35 s                                                                                     |
|  Ø6 |  Ø8 |
| 75 s                                                                                   | 35 s                                                                                     |

Lanes, Volumes, Timings  
2: Stallings Rd & Sweet Birch Dr

Stallings Farms TIA  
2032 Build PM

|                         |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group              | WBL                                                                               | WBR                                                                               | NBT                                                                               | NBR                                                                               | SBL                                                                               | SBT                                                                               |
| Lane Configurations     |  |  |  |                                                                                   |                                                                                   |  |
| Traffic Volume (vph)    | 29                                                                                | 37                                                                                | 748                                                                               | 49                                                                                | 64                                                                                | 510                                                                               |
| Future Volume (vph)     | 29                                                                                | 37                                                                                | 748                                                                               | 49                                                                                | 64                                                                                | 510                                                                               |
| Ideal Flow (vphpl)      | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Storage Length (ft)     | 0                                                                                 | 100                                                                               |                                                                                   | 100                                                                               | 100                                                                               |                                                                                   |
| Storage Lanes           | 1                                                                                 | 1                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |
| Taper Length (ft)       | 25                                                                                |                                                                                   |                                                                                   |                                                                                   | 100                                                                               |                                                                                   |
| Lane Util. Factor       | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Frt                     |                                                                                   | 0.850                                                                             | 0.992                                                                             |                                                                                   |                                                                                   |                                                                                   |
| Flt Protected           | 0.950                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.994                                                                             |
| Satd. Flow (prot)       | 1770                                                                              | 1583                                                                              | 1831                                                                              | 0                                                                                 | 0                                                                                 | 1820                                                                              |
| Flt Permitted           | 0.950                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.994                                                                             |
| Satd. Flow (perm)       | 1770                                                                              | 1583                                                                              | 1831                                                                              | 0                                                                                 | 0                                                                                 | 1820                                                                              |
| Link Speed (mph)        | 25                                                                                |                                                                                   | 45                                                                                |                                                                                   |                                                                                   | 45                                                                                |
| Link Distance (ft)      | 597                                                                               |                                                                                   | 2030                                                                              |                                                                                   |                                                                                   | 1189                                                                              |
| Travel Time (s)         | 16.3                                                                              |                                                                                   | 30.8                                                                              |                                                                                   |                                                                                   | 18.0                                                                              |
| Peak Hour Factor        | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              |
| Heavy Vehicles (%)      | 2%                                                                                | 2%                                                                                | 3%                                                                                | 2%                                                                                | 2%                                                                                | 4%                                                                                |
| Adj. Flow (vph)         | 32                                                                                | 41                                                                                | 831                                                                               | 54                                                                                | 71                                                                                | 567                                                                               |
| Shared Lane Traffic (%) |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)   | 32                                                                                | 41                                                                                | 885                                                                               | 0                                                                                 | 0                                                                                 | 638                                                                               |
| Sign Control            | Stop                                                                              |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              |

Intersection Summary

|                                   |                        |
|-----------------------------------|------------------------|
| Area Type:                        | Other                  |
| Control Type:                     | Unsignalized           |
| Intersection Capacity Utilization | 86.1%                  |
| Analysis Period (min)             | 15                     |
|                                   | ICU Level of Service E |

# HCM Unsignalized Intersection Capacity Analysis

## 2: Stallings Rd & Sweet Birch Dr

Stallings Farms TIA  
2032 Build PM

|                                   |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Movement                          | WBL                                                                               | WBR                                                                               | NBT                                                                               | NBR                                                                               | SBL                                                                               | SBT                                                                               |
| Lane Configurations               |  |  |  |                                                                                   |                                                                                   |  |
| Traffic Volume (veh/h)            | 29                                                                                | 37                                                                                | 748                                                                               | 49                                                                                | 64                                                                                | 510                                                                               |
| Future Volume (Veh/h)             | 29                                                                                | 37                                                                                | 748                                                                               | 49                                                                                | 64                                                                                | 510                                                                               |
| Sign Control                      | Stop                                                                              |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              |
| Grade                             | 0%                                                                                |                                                                                   | 0%                                                                                |                                                                                   |                                                                                   | 0%                                                                                |
| Peak Hour Factor                  | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              |
| Hourly flow rate (vph)            | 32                                                                                | 41                                                                                | 831                                                                               | 54                                                                                | 71                                                                                | 567                                                                               |
| Pedestrians                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Width (ft)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Walking Speed (ft/s)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Percent Blockage                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Right turn flare (veh)            |                                                                                   | 4                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Median type                       |                                                                                   |                                                                                   | None                                                                              |                                                                                   |                                                                                   | None                                                                              |
| Median storage (veh)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Upstream signal (ft)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| pX, platoon unblocked             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC, conflicting volume            | 1567                                                                              | 858                                                                               |                                                                                   |                                                                                   | 885                                                                               |                                                                                   |
| vC1, stage 1 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC2, stage 2 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vCu, unblocked vol                | 1567                                                                              | 858                                                                               |                                                                                   |                                                                                   | 885                                                                               |                                                                                   |
| tC, single (s)                    | 6.4                                                                               | 6.2                                                                               |                                                                                   |                                                                                   | 4.1                                                                               |                                                                                   |
| tC, 2 stage (s)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| tF (s)                            | 3.5                                                                               | 3.3                                                                               |                                                                                   |                                                                                   | 2.2                                                                               |                                                                                   |
| p0 queue free %                   | 71                                                                                | 88                                                                                |                                                                                   |                                                                                   | 91                                                                                |                                                                                   |
| cM capacity (veh/h)               | 111                                                                               | 357                                                                               |                                                                                   |                                                                                   | 765                                                                               |                                                                                   |
| Direction, Lane #                 | WB 1                                                                              | NB 1                                                                              | SB 1                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Volume Total                      | 73                                                                                | 885                                                                               | 638                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Volume Left                       | 32                                                                                | 0                                                                                 | 71                                                                                |                                                                                   |                                                                                   |                                                                                   |
| Volume Right                      | 41                                                                                | 54                                                                                | 0                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| cSH                               | 253                                                                               | 1700                                                                              | 765                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Volume to Capacity                | 0.29                                                                              | 0.52                                                                              | 0.09                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Queue Length 95th (ft)            | 29                                                                                | 0                                                                                 | 8                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| Control Delay (s)                 | 31.2                                                                              | 0.0                                                                               | 2.4                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Lane LOS                          | D                                                                                 |                                                                                   | A                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| Approach Delay (s)                | 31.2                                                                              | 0.0                                                                               | 2.4                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Approach LOS                      | D                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Average Delay                     |                                                                                   | 2.4                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization |                                                                                   | 86.1%                                                                             |                                                                                   | ICU Level of Service                                                              |                                                                                   | E                                                                                 |
| Analysis Period (min)             |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |



Lanes, Volumes, Timings  
3: Nouvelle Dr & Sweet Birch Dr

Stallings Farms TIA  
2032 Build PM

|                                   |  |  |  |  |                                                                                    |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group                        | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | NBL                                                                                                                                                                 | NBR                                                                               |
| Lane Configurations               |  |                                                                                   |                                                                                   |  |   |                                                                                   |
| Traffic Volume (vph)              | 105                                                                               | 9                                                                                 | 4                                                                                 | 61                                                                                | 5                                                                                                                                                                   | 4                                                                                 |
| Future Volume (vph)               | 105                                                                               | 9                                                                                 | 4                                                                                 | 61                                                                                | 5                                                                                                                                                                   | 4                                                                                 |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                                                                                                | 1900                                                                              |
| Lane Util. Factor                 | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                                                                                                | 1.00                                                                              |
| Frt                               | 0.989                                                                             |                                                                                   |                                                                                   |                                                                                   | 0.946                                                                                                                                                               |                                                                                   |
| Flt Protected                     |                                                                                   |                                                                                   |                                                                                   | 0.997                                                                             | 0.971                                                                                                                                                               |                                                                                   |
| Satd. Flow (prot)                 | 1842                                                                              | 0                                                                                 | 0                                                                                 | 1857                                                                              | 1711                                                                                                                                                                | 0                                                                                 |
| Flt Permitted                     |                                                                                   |                                                                                   |                                                                                   | 0.997                                                                             | 0.971                                                                                                                                                               |                                                                                   |
| Satd. Flow (perm)                 | 1842                                                                              | 0                                                                                 | 0                                                                                 | 1857                                                                              | 1711                                                                                                                                                                | 0                                                                                 |
| Link Speed (mph)                  | 25                                                                                |                                                                                   |                                                                                   | 25                                                                                | 25                                                                                                                                                                  |                                                                                   |
| Link Distance (ft)                | 597                                                                               |                                                                                   |                                                                                   | 398                                                                               | 1037                                                                                                                                                                |                                                                                   |
| Travel Time (s)                   | 16.3                                                                              |                                                                                   |                                                                                   | 10.9                                                                              | 28.3                                                                                                                                                                |                                                                                   |
| Peak Hour Factor                  | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                                                                                                                | 0.90                                                                              |
| Adj. Flow (vph)                   | 117                                                                               | 10                                                                                | 4                                                                                 | 68                                                                                | 6                                                                                                                                                                   | 4                                                                                 |
| Shared Lane Traffic (%)           |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                                                                                                     |                                                                                   |
| Lane Group Flow (vph)             | 127                                                                               | 0                                                                                 | 0                                                                                 | 72                                                                                | 10                                                                                                                                                                  | 0                                                                                 |
| Sign Control                      | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              | Stop                                                                                                                                                                |                                                                                   |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                                                                                                     |                                                                                   |
| Area Type:                        | Other                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                                                                                                     |                                                                                   |
| Control Type:                     | Unsignalized                                                                      |                                                                                   |                                                                                   |                                                                                   |                                                                                                                                                                     |                                                                                   |
| Intersection Capacity Utilization | 16.5%                                                                             |                                                                                   |                                                                                   | ICU Level of Service A                                                            |                                                                                                                                                                     |                                                                                   |
| Analysis Period (min)             | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                                                                                                     |                                                                                   |

# HCM Unsignalized Intersection Capacity Analysis

## 3: Nouvelle Dr & Sweet Birch Dr

Stallings Farms TIA  
2032 Build PM

|                                   |      |       |                      |      |      |      |
|-----------------------------------|------|-------|----------------------|------|------|------|
|                                   | →    | ↘     | ↙                    | ←    | ↖    | ↗    |
| Movement                          | EBT  | EBR   | WBL                  | WBT  | NBL  | NBR  |
| Lane Configurations               | ↶    |       |                      | ↷    | ↶    |      |
| Traffic Volume (veh/h)            | 105  | 9     | 4                    | 61   | 5    | 4    |
| Future Volume (Veh/h)             | 105  | 9     | 4                    | 61   | 5    | 4    |
| Sign Control                      | Free |       |                      | Free | Stop |      |
| Grade                             | 0%   |       |                      | 0%   | 0%   |      |
| Peak Hour Factor                  | 0.90 | 0.90  | 0.90                 | 0.90 | 0.90 | 0.90 |
| Hourly flow rate (vph)            | 117  | 10    | 4                    | 68   | 6    | 4    |
| Pedestrians                       |      |       |                      |      |      |      |
| Lane Width (ft)                   |      |       |                      |      |      |      |
| Walking Speed (ft/s)              |      |       |                      |      |      |      |
| Percent Blockage                  |      |       |                      |      |      |      |
| Right turn flare (veh)            |      |       |                      |      |      |      |
| Median type                       | None |       |                      | None |      |      |
| Median storage veh                |      |       |                      |      |      |      |
| Upstream signal (ft)              |      |       |                      |      |      |      |
| pX, platoon unblocked             |      |       |                      |      |      |      |
| vC, conflicting volume            |      |       | 127                  |      | 198  | 122  |
| vC1, stage 1 conf vol             |      |       |                      |      |      |      |
| vC2, stage 2 conf vol             |      |       |                      |      |      |      |
| vCu, unblocked vol                |      |       | 127                  |      | 198  | 122  |
| tC, single (s)                    |      |       | 4.1                  |      | 6.4  | 6.2  |
| tC, 2 stage (s)                   |      |       |                      |      |      |      |
| tF (s)                            |      |       | 2.2                  |      | 3.5  | 3.3  |
| p0 queue free %                   |      |       | 100                  |      | 99   | 100  |
| cM capacity (veh/h)               |      |       | 1459                 |      | 789  | 929  |
| Direction, Lane #                 | EB 1 | WB 1  | NB 1                 |      |      |      |
| Volume Total                      | 127  | 72    | 10                   |      |      |      |
| Volume Left                       | 0    | 4     | 6                    |      |      |      |
| Volume Right                      | 10   | 0     | 4                    |      |      |      |
| cSH                               | 1700 | 1459  | 839                  |      |      |      |
| Volume to Capacity                | 0.07 | 0.00  | 0.01                 |      |      |      |
| Queue Length 95th (ft)            | 0    | 0     | 1                    |      |      |      |
| Control Delay (s)                 | 0.0  | 0.4   | 9.3                  |      |      |      |
| Lane LOS                          |      | A     | A                    |      |      |      |
| Approach Delay (s)                | 0.0  | 0.4   | 9.3                  |      |      |      |
| Approach LOS                      |      |       | A                    |      |      |      |
| Intersection Summary              |      |       |                      |      |      |      |
| Average Delay                     |      | 0.6   |                      |      |      |      |
| Intersection Capacity Utilization |      | 16.5% | ICU Level of Service | A    |      |      |
| Analysis Period (min)             |      | 15    |                      |      |      |      |

## 4: Stallings Rd &amp; Monroe Expressway WB Ramp

2032 Build PM

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations     |                                                                                   |                                                                                   |                                                                                   |  |  |                                                                                   |  |  |                                                                                     |                                                                                     |  |  |
| Traffic Volume (vph)    | 0                                                                                 | 0                                                                                 | 0                                                                                 | 263                                                                               | 150                                                                               | 237                                                                               | 761                                                                                | 641                                                                                 | 0                                                                                   | 0                                                                                   | 459                                                                                 | 256                                                                                 |
| Future Volume (vph)     | 0                                                                                 | 0                                                                                 | 0                                                                                 | 263                                                                               | 150                                                                               | 237                                                                               | 761                                                                                | 641                                                                                 | 0                                                                                   | 0                                                                                   | 459                                                                                 | 256                                                                                 |
| Ideal Flow (vphpl)      | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                               | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)     | 0                                                                                 |                                                                                   | 0                                                                                 | 325                                                                               |                                                                                   | 50                                                                                | 0                                                                                  |                                                                                     | 0                                                                                   | 200                                                                                 |                                                                                     | 200                                                                                 |
| Storage Lanes           | 0                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                 |                                                                                   | 0                                                                                 | 2                                                                                  |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     | 2                                                                                   |
| Taper Length (ft)       | 25                                                                                |                                                                                   |                                                                                   | 100                                                                               |                                                                                   |                                                                                   | 25                                                                                 |                                                                                     |                                                                                     | 100                                                                                 |                                                                                     |                                                                                     |
| Lane Util. Factor       | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 0.95                                                                              | 0.95                                                                              | 0.97                                                                               | 0.95                                                                                | 1.00                                                                                | 1.00                                                                                | 0.86                                                                                | 0.86                                                                                |
| Frt                     |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.908                                                                             |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 0.946                                                                               |                                                                                     |
| Flt Protected           |                                                                                   |                                                                                   |                                                                                   | 0.950                                                                             |                                                                                   |                                                                                   | 0.950                                                                              |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Satd. Flow (prot)       | 0                                                                                 | 0                                                                                 | 0                                                                                 | 1719                                                                              | 3214                                                                              | 0                                                                                 | 3433                                                                               | 3539                                                                                | 0                                                                                   | 0                                                                                   | 6024                                                                                | 0                                                                                   |
| Flt Permitted           |                                                                                   |                                                                                   |                                                                                   | 0.950                                                                             |                                                                                   |                                                                                   | 0.950                                                                              |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Satd. Flow (perm)       | 0                                                                                 | 0                                                                                 | 0                                                                                 | 1719                                                                              | 3214                                                                              | 0                                                                                 | 3433                                                                               | 3539                                                                                | 0                                                                                   | 0                                                                                   | 6024                                                                                | 0                                                                                   |
| Right Turn on Red       |                                                                                   |                                                                                   | No                                                                                |                                                                                   |                                                                                   | No                                                                                |                                                                                    |                                                                                     | No                                                                                  |                                                                                     |                                                                                     | No                                                                                  |
| Satd. Flow (RTOR)       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Link Speed (mph)        |                                                                                   | 30                                                                                |                                                                                   |                                                                                   | 45                                                                                |                                                                                   |                                                                                    | 35                                                                                  |                                                                                     |                                                                                     | 45                                                                                  |                                                                                     |
| Link Distance (ft)      |                                                                                   | 1788                                                                              |                                                                                   |                                                                                   | 2381                                                                              |                                                                                   |                                                                                    | 198                                                                                 |                                                                                     |                                                                                     | 998                                                                                 |                                                                                     |
| Travel Time (s)         |                                                                                   | 40.6                                                                              |                                                                                   |                                                                                   | 36.1                                                                              |                                                                                   |                                                                                    | 3.9                                                                                 |                                                                                     |                                                                                     | 15.1                                                                                |                                                                                     |
| Peak Hour Factor        | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                               | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                |
| Heavy Vehicles (%)      | 2%                                                                                | 2%                                                                                | 2%                                                                                | 5%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                 | 2%                                                                                  | 2%                                                                                  | 2%                                                                                  | 3%                                                                                  | 2%                                                                                  |
| Adj. Flow (vph)         | 0                                                                                 | 0                                                                                 | 0                                                                                 | 292                                                                               | 167                                                                               | 263                                                                               | 846                                                                                | 712                                                                                 | 0                                                                                   | 0                                                                                   | 510                                                                                 | 284                                                                                 |
| Shared Lane Traffic (%) |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)   | 0                                                                                 | 0                                                                                 | 0                                                                                 | 292                                                                               | 430                                                                               | 0                                                                                 | 846                                                                                | 712                                                                                 | 0                                                                                   | 0                                                                                   | 794                                                                                 | 0                                                                                   |
| Turn Type               |                                                                                   |                                                                                   |                                                                                   | Split                                                                             | NA                                                                                |                                                                                   | Prot                                                                               | NA                                                                                  |                                                                                     |                                                                                     | NA                                                                                  |                                                                                     |
| Protected Phases        |                                                                                   |                                                                                   |                                                                                   | 4                                                                                 | 4                                                                                 |                                                                                   | 3 5                                                                                | 2 3                                                                                 |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     |
| Permitted Phases        |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Detector Phase          |                                                                                   |                                                                                   |                                                                                   | 4                                                                                 | 4                                                                                 |                                                                                   | 3 5                                                                                | 2 3                                                                                 |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     |
| Switch Phase            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)     |                                                                                   |                                                                                   |                                                                                   | 7.0                                                                               | 7.0                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 12.0                                                                                |                                                                                     |
| Minimum Split (s)       |                                                                                   |                                                                                   |                                                                                   | 13.7                                                                              | 13.7                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 28.4                                                                                |                                                                                     |
| Total Split (s)         |                                                                                   |                                                                                   |                                                                                   | 31.0                                                                              | 31.0                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 37.0                                                                                |                                                                                     |
| Total Split (%)         |                                                                                   |                                                                                   |                                                                                   | 23.8%                                                                             | 23.8%                                                                             |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 28.5%                                                                               |                                                                                     |
| Maximum Green (s)       |                                                                                   |                                                                                   |                                                                                   | 24.3                                                                              | 24.3                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 31.6                                                                                |                                                                                     |
| Yellow Time (s)         |                                                                                   |                                                                                   |                                                                                   | 4.3                                                                               | 4.3                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 4.4                                                                                 |                                                                                     |
| All-Red Time (s)        |                                                                                   |                                                                                   |                                                                                   | 2.4                                                                               | 2.4                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 1.0                                                                                 |                                                                                     |
| Lost Time Adjust (s)    |                                                                                   |                                                                                   |                                                                                   | -1.7                                                                              | -1.7                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | -0.4                                                                                |                                                                                     |
| Total Lost Time (s)     |                                                                                   |                                                                                   |                                                                                   | 5.0                                                                               | 5.0                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 5.0                                                                                 |                                                                                     |
| Lead/Lag                |                                                                                   |                                                                                   |                                                                                   | Lead                                                                              | Lead                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | Lead                                                                                |                                                                                     |
| Lead-Lag Optimize?      |                                                                                   |                                                                                   |                                                                                   | Yes                                                                               | Yes                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | Yes                                                                                 |                                                                                     |
| Vehicle Extension (s)   |                                                                                   |                                                                                   |                                                                                   | 3.0                                                                               | 3.0                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 3.0                                                                                 |                                                                                     |
| Recall Mode             |                                                                                   |                                                                                   |                                                                                   | None                                                                              | None                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | C-Min                                                                               |                                                                                     |
| Walk Time (s)           |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 7.0                                                                                 |                                                                                     |
| Flash Dont Walk (s)     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 16.0                                                                                |                                                                                     |
| Pedestrian Calls (#/hr) |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Act Effct Green (s)     |                                                                                   |                                                                                   |                                                                                   | 25.6                                                                              | 25.6                                                                              |                                                                                   | 55.2                                                                               | 75.0                                                                                |                                                                                     |                                                                                     | 26.4                                                                                |                                                                                     |
| Actuated g/C Ratio      |                                                                                   |                                                                                   |                                                                                   | 0.20                                                                              | 0.20                                                                              |                                                                                   | 0.42                                                                               | 0.58                                                                                |                                                                                     |                                                                                     | 0.20                                                                                |                                                                                     |
| v/c Ratio               |                                                                                   |                                                                                   |                                                                                   | 0.86                                                                              | 0.68                                                                              |                                                                                   | 0.58                                                                               | 0.35                                                                                |                                                                                     |                                                                                     | 0.87dr                                                                              |                                                                                     |
| Control Delay           |                                                                                   |                                                                                   |                                                                                   | 74.9                                                                              | 54.4                                                                              |                                                                                   | 21.2                                                                               | 1.7                                                                                 |                                                                                     |                                                                                     | 50.3                                                                                |                                                                                     |
| Queue Delay             |                                                                                   |                                                                                   |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   | 31.7                                                                               | 0.7                                                                                 |                                                                                     |                                                                                     | 0.0                                                                                 |                                                                                     |

Lanes, Volumes, Timings  
4: Stallings Rd & Monroe Expressway WB Ramp

Stallings Farms TIA  
2032 Build PM

| Lane Group              | Ø1   | Ø2    | Ø3   | Ø5   |
|-------------------------|------|-------|------|------|
| Lane Configurations     |      |       |      |      |
| Traffic Volume (vph)    |      |       |      |      |
| Future Volume (vph)     |      |       |      |      |
| Ideal Flow (vphpl)      |      |       |      |      |
| Storage Length (ft)     |      |       |      |      |
| Storage Lanes           |      |       |      |      |
| Taper Length (ft)       |      |       |      |      |
| Lane Util. Factor       |      |       |      |      |
| Frt                     |      |       |      |      |
| Flt Protected           |      |       |      |      |
| Satd. Flow (prot)       |      |       |      |      |
| Flt Permitted           |      |       |      |      |
| Satd. Flow (perm)       |      |       |      |      |
| Right Turn on Red       |      |       |      |      |
| Satd. Flow (RTOR)       |      |       |      |      |
| Link Speed (mph)        |      |       |      |      |
| Link Distance (ft)      |      |       |      |      |
| Travel Time (s)         |      |       |      |      |
| Peak Hour Factor        |      |       |      |      |
| Heavy Vehicles (%)      |      |       |      |      |
| Adj. Flow (vph)         |      |       |      |      |
| Shared Lane Traffic (%) |      |       |      |      |
| Lane Group Flow (vph)   |      |       |      |      |
| Turn Type               |      |       |      |      |
| Protected Phases        | 1    | 2     | 3    | 5    |
| Permitted Phases        |      |       |      |      |
| Detector Phase          |      |       |      |      |
| Switch Phase            |      |       |      |      |
| Minimum Initial (s)     | 7.0  | 10.0  | 7.0  | 7.0  |
| Minimum Split (s)       | 13.3 | 24.2  | 13.4 | 13.2 |
| Total Split (s)         | 14.0 | 37.0  | 48.0 | 14.0 |
| Total Split (%)         | 11%  | 28%   | 37%  | 11%  |
| Maximum Green (s)       | 7.7  | 31.8  | 41.6 | 7.8  |
| Yellow Time (s)         | 3.0  | 3.9   | 3.8  | 3.0  |
| All-Red Time (s)        | 3.3  | 1.3   | 2.6  | 3.2  |
| Lost Time Adjust (s)    |      |       |      |      |
| Total Lost Time (s)     |      |       |      |      |
| Lead/Lag                | Lead | Lag   | Lag  | Lag  |
| Lead-Lag Optimize?      | Yes  | Yes   | Yes  | Yes  |
| Vehicle Extension (s)   | 3.0  | 3.0   | 3.0  | 3.0  |
| Recall Mode             | None | C-Min | None | None |
| Walk Time (s)           |      | 7.0   |      |      |
| Flash Dont Walk (s)     |      | 12.0  |      |      |
| Pedestrian Calls (#/hr) |      | 1     |      |      |
| Act Effct Green (s)     |      |       |      |      |
| Actuated g/C Ratio      |      |       |      |      |
| v/c Ratio               |      |       |      |      |
| Control Delay           |      |       |      |      |
| Queue Delay             |      |       |      |      |

Lanes, Volumes, Timings  
4: Stallings Rd & Monroe Expressway WB Ramp

Stallings Farms TIA  
2032 Build PM

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Total Delay             |                                                                                   |                                                                                   |                                                                                   | 74.9                                                                              | 54.4                                                                              |                                                                                   | 52.8                                                                               | 2.4                                                                                 |                                                                                     |                                                                                     | 50.3                                                                                |                                                                                     |
| LOS                     |                                                                                   |                                                                                   |                                                                                   | E                                                                                 | D                                                                                 |                                                                                   | D                                                                                  | A                                                                                   |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |
| Approach Delay          |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 62.7                                                                              |                                                                                   |                                                                                    | 29.8                                                                                |                                                                                     |                                                                                     | 50.3                                                                                |                                                                                     |
| Approach LOS            |                                                                                   |                                                                                   |                                                                                   |                                                                                   | E                                                                                 |                                                                                   |                                                                                    | C                                                                                   |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |
| Queue Length 50th (ft)  |                                                                                   |                                                                                   |                                                                                   | 239                                                                               | 177                                                                               |                                                                                   | 268                                                                                | 7                                                                                   |                                                                                     |                                                                                     | 183                                                                                 |                                                                                     |
| Queue Length 95th (ft)  |                                                                                   |                                                                                   |                                                                                   | #392                                                                              | 237                                                                               |                                                                                   | 336                                                                                | 27                                                                                  |                                                                                     |                                                                                     | 209                                                                                 |                                                                                     |
| Internal Link Dist (ft) |                                                                                   | 1708                                                                              |                                                                                   |                                                                                   | 2301                                                                              |                                                                                   |                                                                                    | 118                                                                                 |                                                                                     |                                                                                     | 918                                                                                 |                                                                                     |
| Turn Bay Length (ft)    |                                                                                   |                                                                                   |                                                                                   | 325                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Base Capacity (vph)     |                                                                                   |                                                                                   |                                                                                   | 345                                                                               | 645                                                                               |                                                                                   | 1459                                                                               | 2046                                                                                |                                                                                     |                                                                                     | 1482                                                                                |                                                                                     |
| Starvation Cap Reductn  |                                                                                   |                                                                                   |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 653                                                                                | 919                                                                                 |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Spillback Cap Reductn   |                                                                                   |                                                                                   |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                  | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Storage Cap Reductn     |                                                                                   |                                                                                   |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                  | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Reduced v/c Ratio       |                                                                                   |                                                                                   |                                                                                   | 0.85                                                                              | 0.67                                                                              |                                                                                   | 1.05                                                                               | 0.63                                                                                |                                                                                     |                                                                                     | 0.54                                                                                |                                                                                     |

Intersection Summary

Area Type: Other

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 31.2 (24%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.86

Intersection Signal Delay: 42.8

Intersection LOS: D

Intersection Capacity Utilization 75.6%

ICU Level of Service D

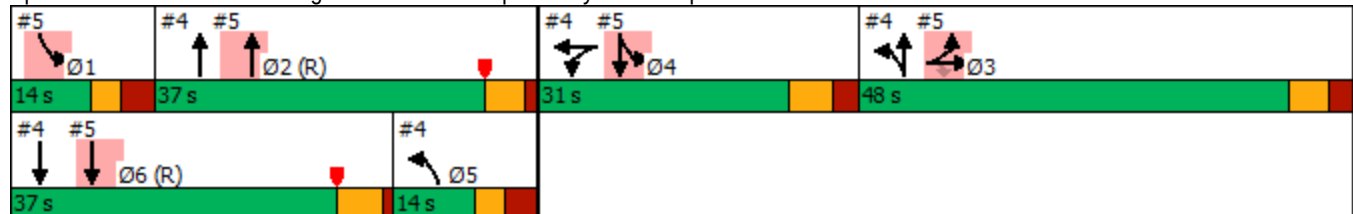
Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Splits and Phases: 4: Stallings Rd & Monroe Expressway WB Ramp



| Lane Group              | Ø1 | Ø2 | Ø3 | Ø5 |
|-------------------------|----|----|----|----|
| Total Delay             |    |    |    |    |
| LOS                     |    |    |    |    |
| Approach Delay          |    |    |    |    |
| Approach LOS            |    |    |    |    |
| Queue Length 50th (ft)  |    |    |    |    |
| Queue Length 95th (ft)  |    |    |    |    |
| Internal Link Dist (ft) |    |    |    |    |
| Turn Bay Length (ft)    |    |    |    |    |
| Base Capacity (vph)     |    |    |    |    |
| Starvation Cap Reductn  |    |    |    |    |
| Spillback Cap Reductn   |    |    |    |    |
| Storage Cap Reductn     |    |    |    |    |
| Reduced v/c Ratio       |    |    |    |    |
| Intersection Summary    |    |    |    |    |

Lanes, Volumes, Timings  
5: Stallings Rd & Monroe Expressway EB Ramp

Stallings Farms TIA

2032 Build PM

|                         |  |                                                                                   |                                                                                   |      |      |      |      |                                                                                     |      |                                                                                     |                                                                                     |      |
|-------------------------|------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|------|------|------|-------------------------------------------------------------------------------------|------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------|
| Lane Group              | EBL                                                                                | EBT                                                                               | EBR                                                                               | WBL  | WBT  | WBR  | NBL  | NBT                                                                                 | NBR  | SBL                                                                                 | SBT                                                                                 | SBR  |
| Lane Configurations     |                                                                                    |  |  |      |      |      |      |  |      |  |  |      |
| Traffic Volume (vph)    | 429                                                                                | 187                                                                               | 519                                                                               | 0    | 0    | 0    | 0    | 973                                                                                 | 158  | 203                                                                                 | 519                                                                                 | 0    |
| Future Volume (vph)     | 429                                                                                | 187                                                                               | 519                                                                               | 0    | 0    | 0    | 0    | 973                                                                                 | 158  | 203                                                                                 | 519                                                                                 | 0    |
| Ideal Flow (vphpl)      | 1900                                                                               | 1900                                                                              | 1900                                                                              | 1900 | 1900 | 1900 | 1900 | 1900                                                                                | 1900 | 1900                                                                                | 1900                                                                                | 1900 |
| Storage Length (ft)     | 175                                                                                |                                                                                   | 325                                                                               | 0    |      | 0    | 425  |                                                                                     | 275  | 0                                                                                   |                                                                                     | 0    |
| Storage Lanes           | 0                                                                                  |                                                                                   | 1                                                                                 | 0    |      | 0    | 2    |                                                                                     | 0    | 2                                                                                   |                                                                                     | 0    |
| Taper Length (ft)       | 100                                                                                |                                                                                   |                                                                                   | 25   |      |      | 225  |                                                                                     |      | 25                                                                                  |                                                                                     |      |
| Lane Util. Factor       | 0.95                                                                               | 0.91                                                                              | 0.91                                                                              | 1.00 | 1.00 | 1.00 | 1.00 | 0.86                                                                                | 0.86 | 0.97                                                                                | 0.95                                                                                | 1.00 |
| Ped Bike Factor         |                                                                                    | 1.00                                                                              |                                                                                   |      |      |      |      | 1.00                                                                                |      | 1.00                                                                                |                                                                                     |      |
| Frt                     |                                                                                    | 0.968                                                                             | 0.850                                                                             |      |      |      |      | 0.979                                                                               |      |                                                                                     |                                                                                     |      |
| Flt Protected           |                                                                                    | 0.973                                                                             |                                                                                   |      |      |      |      |                                                                                     |      | 0.950                                                                               |                                                                                     |      |
| Satd. Flow (prot)       | 0                                                                                  | 3180                                                                              | 1413                                                                              | 0    | 0    | 0    | 0    | 6261                                                                                | 0    | 3433                                                                                | 3471                                                                                | 0    |
| Flt Permitted           |                                                                                    | 0.973                                                                             |                                                                                   |      |      |      |      |                                                                                     |      | 0.950                                                                               |                                                                                     |      |
| Satd. Flow (perm)       | 0                                                                                  | 3178                                                                              | 1413                                                                              | 0    | 0    | 0    | 0    | 6261                                                                                | 0    | 3431                                                                                | 3471                                                                                | 0    |
| Right Turn on Red       |                                                                                    |                                                                                   | No                                                                                |      |      | No   |      |                                                                                     | No   |                                                                                     |                                                                                     | No   |
| Satd. Flow (RTOR)       |                                                                                    |                                                                                   |                                                                                   |      |      |      |      |                                                                                     |      |                                                                                     |                                                                                     |      |
| Link Speed (mph)        |                                                                                    | 35                                                                                |                                                                                   |      | 30   |      |      | 35                                                                                  |      |                                                                                     | 35                                                                                  |      |
| Link Distance (ft)      |                                                                                    | 1776                                                                              |                                                                                   |      | 891  |      |      | 1501                                                                                |      |                                                                                     | 198                                                                                 |      |
| Travel Time (s)         |                                                                                    | 34.6                                                                              |                                                                                   |      | 20.3 |      |      | 29.2                                                                                |      |                                                                                     | 3.9                                                                                 |      |
| Confl. Peds. (#/hr)     | 1                                                                                  |                                                                                   |                                                                                   |      |      | 1    |      |                                                                                     | 1    | 1                                                                                   |                                                                                     |      |
| Peak Hour Factor        | 0.90                                                                               | 0.90                                                                              | 0.90                                                                              | 0.90 | 0.90 | 0.90 | 0.90 | 0.90                                                                                | 0.90 | 0.90                                                                                | 0.90                                                                                | 0.90 |
| Heavy Vehicles (%)      | 2%                                                                                 | 2%                                                                                | 4%                                                                                | 2%   | 2%   | 2%   | 2%   | 2%                                                                                  | 2%   | 2%                                                                                  | 4%                                                                                  | 2%   |
| Adj. Flow (vph)         | 477                                                                                | 208                                                                               | 577                                                                               | 0    | 0    | 0    | 0    | 1081                                                                                | 176  | 226                                                                                 | 577                                                                                 | 0    |
| Shared Lane Traffic (%) |                                                                                    |                                                                                   | 32%                                                                               |      |      |      |      |                                                                                     |      |                                                                                     |                                                                                     |      |
| Lane Group Flow (vph)   | 0                                                                                  | 870                                                                               | 392                                                                               | 0    | 0    | 0    | 0    | 1257                                                                                | 0    | 226                                                                                 | 577                                                                                 | 0    |
| Turn Type               | Split                                                                              | NA                                                                                | Perm                                                                              |      |      |      |      | NA                                                                                  |      | Prot                                                                                | NA                                                                                  |      |
| Protected Phases        | 3                                                                                  | 3                                                                                 |                                                                                   |      |      |      |      | 2                                                                                   |      | 1 4                                                                                 | 4 6                                                                                 |      |
| Permitted Phases        |                                                                                    |                                                                                   | 3                                                                                 |      |      |      |      |                                                                                     |      |                                                                                     |                                                                                     |      |
| Detector Phase          | 3                                                                                  | 3                                                                                 | 3                                                                                 |      |      |      |      | 2                                                                                   |      | 1 4                                                                                 | 4 6                                                                                 |      |
| Switch Phase            |                                                                                    |                                                                                   |                                                                                   |      |      |      |      |                                                                                     |      |                                                                                     |                                                                                     |      |
| Minimum Initial (s)     | 7.0                                                                                | 7.0                                                                               | 7.0                                                                               |      |      |      |      | 10.0                                                                                |      |                                                                                     |                                                                                     |      |
| Minimum Split (s)       | 13.4                                                                               | 13.4                                                                              | 13.4                                                                              |      |      |      |      | 24.2                                                                                |      |                                                                                     |                                                                                     |      |
| Total Split (s)         | 48.0                                                                               | 48.0                                                                              | 48.0                                                                              |      |      |      |      | 37.0                                                                                |      |                                                                                     |                                                                                     |      |
| Total Split (%)         | 36.9%                                                                              | 36.9%                                                                             | 36.9%                                                                             |      |      |      |      | 28.5%                                                                               |      |                                                                                     |                                                                                     |      |
| Maximum Green (s)       | 41.6                                                                               | 41.6                                                                              | 41.6                                                                              |      |      |      |      | 31.8                                                                                |      |                                                                                     |                                                                                     |      |
| Yellow Time (s)         | 3.8                                                                                | 3.8                                                                               | 3.8                                                                               |      |      |      |      | 3.9                                                                                 |      |                                                                                     |                                                                                     |      |
| All-Red Time (s)        | 2.6                                                                                | 2.6                                                                               | 2.6                                                                               |      |      |      |      | 1.3                                                                                 |      |                                                                                     |                                                                                     |      |
| Lost Time Adjust (s)    |                                                                                    | -1.4                                                                              | -1.4                                                                              |      |      |      |      | -0.2                                                                                |      |                                                                                     |                                                                                     |      |
| Total Lost Time (s)     |                                                                                    | 5.0                                                                               | 5.0                                                                               |      |      |      |      | 5.0                                                                                 |      |                                                                                     |                                                                                     |      |
| Lead/Lag                | Lag                                                                                | Lag                                                                               | Lag                                                                               |      |      |      |      | Lag                                                                                 |      |                                                                                     |                                                                                     |      |
| Lead-Lag Optimize?      | Yes                                                                                | Yes                                                                               | Yes                                                                               |      |      |      |      | Yes                                                                                 |      |                                                                                     |                                                                                     |      |
| Vehicle Extension (s)   | 3.0                                                                                | 3.0                                                                               | 3.0                                                                               |      |      |      |      | 3.0                                                                                 |      |                                                                                     |                                                                                     |      |
| Recall Mode             | None                                                                               | None                                                                              | None                                                                              |      |      |      |      | C-Min                                                                               |      |                                                                                     |                                                                                     |      |
| Walk Time (s)           |                                                                                    |                                                                                   |                                                                                   |      |      |      |      | 7.0                                                                                 |      |                                                                                     |                                                                                     |      |
| Flash Dont Walk (s)     |                                                                                    |                                                                                   |                                                                                   |      |      |      |      | 12.0                                                                                |      |                                                                                     |                                                                                     |      |
| Pedestrian Calls (#/hr) |                                                                                    |                                                                                   |                                                                                   |      |      |      |      | 1                                                                                   |      |                                                                                     |                                                                                     |      |
| Act Effct Green (s)     |                                                                                    | 42.9                                                                              | 42.9                                                                              |      |      |      |      | 32.5                                                                                |      | 32.0                                                                                | 48.6                                                                                |      |
| Actuated g/C Ratio      |                                                                                    | 0.33                                                                              | 0.33                                                                              |      |      |      |      | 0.25                                                                                |      | 0.25                                                                                | 0.37                                                                                |      |
| v/c Ratio               |                                                                                    | 0.86dl                                                                            | 0.84                                                                              |      |      |      |      | 0.80                                                                                |      | 0.27                                                                                | 0.44                                                                                |      |

Lanes, Volumes, Timings  
5: Stallings Rd & Monroe Expressway EB Ramp

Stallings Farms TIA  
2032 Build PM

| Lane Group              | Ø1   | Ø4   | Ø5   | Ø6    |
|-------------------------|------|------|------|-------|
| Lane Configurations     |      |      |      |       |
| Traffic Volume (vph)    |      |      |      |       |
| Future Volume (vph)     |      |      |      |       |
| Ideal Flow (vphpl)      |      |      |      |       |
| Storage Length (ft)     |      |      |      |       |
| Storage Lanes           |      |      |      |       |
| Taper Length (ft)       |      |      |      |       |
| Lane Util. Factor       |      |      |      |       |
| Ped Bike Factor         |      |      |      |       |
| Frt                     |      |      |      |       |
| Flt Protected           |      |      |      |       |
| Satd. Flow (prot)       |      |      |      |       |
| Flt Permitted           |      |      |      |       |
| Satd. Flow (perm)       |      |      |      |       |
| Right Turn on Red       |      |      |      |       |
| Satd. Flow (RTOR)       |      |      |      |       |
| Link Speed (mph)        |      |      |      |       |
| Link Distance (ft)      |      |      |      |       |
| Travel Time (s)         |      |      |      |       |
| Confl. Peds. (#/hr)     |      |      |      |       |
| Peak Hour Factor        |      |      |      |       |
| Heavy Vehicles (%)      |      |      |      |       |
| Adj. Flow (vph)         |      |      |      |       |
| Shared Lane Traffic (%) |      |      |      |       |
| Lane Group Flow (vph)   |      |      |      |       |
| Turn Type               |      |      |      |       |
| Protected Phases        | 1    | 4    | 5    | 6     |
| Permitted Phases        |      |      |      |       |
| Detector Phase          |      |      |      |       |
| Switch Phase            |      |      |      |       |
| Minimum Initial (s)     | 7.0  | 7.0  | 7.0  | 12.0  |
| Minimum Split (s)       | 13.3 | 13.7 | 13.2 | 28.4  |
| Total Split (s)         | 14.0 | 31.0 | 14.0 | 37.0  |
| Total Split (%)         | 11%  | 24%  | 11%  | 28%   |
| Maximum Green (s)       | 7.7  | 24.3 | 7.8  | 31.6  |
| Yellow Time (s)         | 3.0  | 4.3  | 3.0  | 4.4   |
| All-Red Time (s)        | 3.3  | 2.4  | 3.2  | 1.0   |
| Lost Time Adjust (s)    |      |      |      |       |
| Total Lost Time (s)     |      |      |      |       |
| Lead/Lag                | Lead | Lead | Lag  | Lead  |
| Lead-Lag Optimize?      | Yes  | Yes  | Yes  | Yes   |
| Vehicle Extension (s)   | 3.0  | 3.0  | 3.0  | 3.0   |
| Recall Mode             | None | None | None | C-Min |
| Walk Time (s)           |      |      |      | 7.0   |
| Flash Dont Walk (s)     |      |      |      | 16.0  |
| Pedestrian Calls (#/hr) |      |      |      | 0     |
| Act Effct Green (s)     |      |      |      |       |
| Actuated g/C Ratio      |      |      |      |       |
| v/c Ratio               |      |      |      |       |



Stallings Farms TIA  
2032 Build PM

| Intersection Summary                                                     |                                                                 |
|--------------------------------------------------------------------------|-----------------------------------------------------------------|
| Area Type:                                                               | Other                                                           |
| Cycle Length:                                                            | 130                                                             |
| Actuated Cycle Length:                                                   | 130                                                             |
| Offset: 31.2 (24%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow |                                                                 |
| Natural Cycle:                                                           | 90                                                              |
| Control Type:                                                            | Actuated-Coordinated                                            |
| Maximum v/c Ratio:                                                       | 0.86                                                            |
| Intersection Signal Delay:                                               | 48.1                                                            |
| Intersection LOS:                                                        | D                                                               |
| Intersection Capacity Utilization                                        | 75.6%                                                           |
| ICU Level of Service                                                     | D                                                               |
| Analysis Period (min)                                                    | 15                                                              |
| #                                                                        | 95th percentile volume exceeds capacity, queue may be longer.   |
|                                                                          | Queue shown is maximum after two cycles.                        |
| m                                                                        | Volume for 95th percentile queue is metered by upstream signal. |
| dl                                                                       | Defacto Left Lane. Recode with 1 though lane as a left lane.    |

|  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |

| Lane Group              | Ø1 | Ø4 | Ø5 | Ø6 |
|-------------------------|----|----|----|----|
| Control Delay           |    |    |    |    |
| Queue Delay             |    |    |    |    |
| Total Delay             |    |    |    |    |
| LOS                     |    |    |    |    |
| Approach Delay          |    |    |    |    |
| Approach LOS            |    |    |    |    |
| Queue Length 50th (ft)  |    |    |    |    |
| Queue Length 95th (ft)  |    |    |    |    |
| Internal Link Dist (ft) |    |    |    |    |
| Turn Bay Length (ft)    |    |    |    |    |
| Base Capacity (vph)     |    |    |    |    |
| Starvation Cap Reductn  |    |    |    |    |
| Spillback Cap Reductn   |    |    |    |    |
| Storage Cap Reductn     |    |    |    |    |
| Reduced v/c Ratio       |    |    |    |    |
| Intersection Summary    |    |    |    |    |

Lanes, Volumes, Timings  
6: Stallings Rd & Matthews-Indian Trail Rd

Stallings Farms TIA  
2032 Build PM

|                         |  |       |      |       |       |      |       |       |      |       |       |      |
|-------------------------|------------------------------------------------------------------------------------|-------|------|-------|-------|------|-------|-------|------|-------|-------|------|
| Lane Group              | EBL                                                                                | EBT   | EBR  | WBL   | WBT   | WBR  | NBL   | NBT   | NBR  | SBL   | SBT   | SBR  |
| Lane Configurations     |                                                                                    |       |      |       |       |      |       |       |      |       |       |      |
| Traffic Volume (vph)    | 36                                                                                 | 86    | 157  | 123   | 44    | 208  | 44    | 774   | 101  | 154   | 759   | 50   |
| Future Volume (vph)     | 36                                                                                 | 86    | 157  | 123   | 44    | 208  | 44    | 774   | 101  | 154   | 759   | 50   |
| Ideal Flow (vphpl)      | 1900                                                                               | 1900  | 1900 | 1900  | 1900  | 1900 | 1900  | 1900  | 1900 | 1900  | 1900  | 1900 |
| Storage Length (ft)     | 140                                                                                |       | 0    | 140   |       | 0    | 120   |       | 150  | 110   |       | 0    |
| Storage Lanes           | 1                                                                                  |       | 0    | 1     |       | 0    | 1     |       | 0    | 1     |       | 0    |
| Taper Length (ft)       | 100                                                                                |       |      | 75    |       |      | 100   |       |      | 100   |       |      |
| Lane Util. Factor       | 1.00                                                                               | 1.00  | 1.00 | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00 |
| Ped Bike Factor         |                                                                                    |       |      |       |       |      |       | 1.00  |      | 1.00  |       |      |
| Frt                     |                                                                                    | 0.903 |      |       | 0.876 |      |       | 0.983 |      |       | 0.991 |      |
| Flt Protected           | 0.950                                                                              |       |      | 0.950 |       |      | 0.950 |       |      | 0.950 |       |      |
| Satd. Flow (prot)       | 1770                                                                               | 1682  | 0    | 1770  | 1632  | 0    | 1770  | 1810  | 0    | 1770  | 1812  | 0    |
| Flt Permitted           | 0.382                                                                              |       |      | 0.402 |       |      | 0.185 |       |      | 0.143 |       |      |
| Satd. Flow (perm)       | 712                                                                                | 1682  | 0    | 749   | 1632  | 0    | 345   | 1810  | 0    | 266   | 1812  | 0    |
| Right Turn on Red       |                                                                                    |       | No   |       |       | No   |       |       | No   |       |       | No   |
| Satd. Flow (RTOR)       |                                                                                    |       |      |       |       |      |       |       |      |       |       |      |
| Link Speed (mph)        |                                                                                    | 45    |      |       | 35    |      |       | 35    |      |       | 35    |      |
| Link Distance (ft)      |                                                                                    | 2002  |      |       | 586   |      |       | 1248  |      |       | 1501  |      |
| Travel Time (s)         |                                                                                    | 30.3  |      |       | 11.4  |      |       | 24.3  |      |       | 29.2  |      |
| Confl. Peds. (#/hr)     |                                                                                    |       |      |       |       |      |       |       | 1    | 1     |       |      |
| Peak Hour Factor        | 0.90                                                                               | 0.90  | 0.90 | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  | 0.90 |
| Heavy Vehicles (%)      | 2%                                                                                 | 2%    | 2%   | 2%    | 2%    | 2%   | 2%    | 2%    | 10%  | 2%    | 4%    | 3%   |
| Adj. Flow (vph)         | 40                                                                                 | 96    | 174  | 137   | 49    | 231  | 49    | 860   | 112  | 171   | 843   | 56   |
| Shared Lane Traffic (%) |                                                                                    |       |      |       |       |      |       |       |      |       |       |      |
| Lane Group Flow (vph)   | 40                                                                                 | 270   | 0    | 137   | 280   | 0    | 49    | 972   | 0    | 171   | 899   | 0    |
| Turn Type               | Perm                                                                               | NA    |      | Perm  | NA    |      | Perm  | NA    |      | Perm  | NA    |      |
| Protected Phases        |                                                                                    | 4     |      |       | 8     |      |       | 2     |      |       | 6     |      |
| Permitted Phases        | 4                                                                                  |       |      | 8     |       |      | 2     |       |      | 6     |       |      |
| Detector Phase          | 4                                                                                  | 4     |      | 8     | 8     |      | 2     | 2     |      | 6     | 6     |      |
| Switch Phase            |                                                                                    |       |      |       |       |      |       |       |      |       |       |      |
| Minimum Initial (s)     | 7.0                                                                                | 7.0   |      | 7.0   | 7.0   |      | 10.0  | 10.0  |      | 10.0  | 10.0  |      |
| Minimum Split (s)       | 12.3                                                                               | 12.3  |      | 12.7  | 12.7  |      | 34.4  | 34.4  |      | 15.3  | 15.3  |      |
| Total Split (s)         | 22.0                                                                               | 22.0  |      | 22.0  | 22.0  |      | 58.0  | 58.0  |      | 58.0  | 58.0  |      |
| Total Split (%)         | 27.5%                                                                              | 27.5% |      | 27.5% | 27.5% |      | 72.5% | 72.5% |      | 72.5% | 72.5% |      |
| Maximum Green (s)       | 16.7                                                                               | 16.7  |      | 16.3  | 16.3  |      | 52.6  | 52.6  |      | 52.7  | 52.7  |      |
| Yellow Time (s)         | 3.6                                                                                | 3.6   |      | 4.0   | 4.0   |      | 3.8   | 3.8   |      | 3.6   | 3.6   |      |
| All-Red Time (s)        | 1.7                                                                                | 1.7   |      | 1.7   | 1.7   |      | 1.6   | 1.6   |      | 1.7   | 1.7   |      |
| Lost Time Adjust (s)    | -0.3                                                                               | -0.3  |      | -0.7  | -0.7  |      | -0.4  | -0.4  |      | -0.3  | -0.3  |      |
| Total Lost Time (s)     | 5.0                                                                                | 5.0   |      | 5.0   | 5.0   |      | 5.0   | 5.0   |      | 5.0   | 5.0   |      |
| Lead/Lag                |                                                                                    |       |      |       |       |      |       |       |      |       |       |      |
| Lead-Lag Optimize?      |                                                                                    |       |      |       |       |      |       |       |      |       |       |      |
| Vehicle Extension (s)   | 2.0                                                                                | 2.0   |      | 2.0   | 2.0   |      | 3.0   | 3.0   |      | 3.0   | 3.0   |      |
| Recall Mode             | None                                                                               | None  |      | None  | None  |      | Min   | Min   |      | Min   | Min   |      |
| Walk Time (s)           |                                                                                    |       |      |       |       |      | 7.0   | 7.0   |      |       |       |      |
| Flash Dont Walk (s)     |                                                                                    |       |      |       |       |      | 22.0  | 22.0  |      |       |       |      |
| Pedestrian Calls (#/hr) |                                                                                    |       |      |       |       |      | 1     | 1     |      |       |       |      |
| Act Effct Green (s)     | 16.5                                                                               | 16.5  |      | 16.5  | 16.5  |      | 48.5  | 48.5  |      | 48.5  | 48.5  |      |
| Actuated g/C Ratio      | 0.22                                                                               | 0.22  |      | 0.22  | 0.22  |      | 0.64  | 0.64  |      | 0.64  | 0.64  |      |
| v/c Ratio               | 0.26                                                                               | 0.73  |      | 0.84  | 0.78  |      | 0.22  | 0.83  |      | 1.00  | 0.77  |      |

Lanes, Volumes, Timings  
6: Stallings Rd & Matthews-Indian Trail Rd

Stallings Farms TIA  
2032 Build PM

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Control Delay           | 31.4                                                                              | 42.7                                                                              |                                                                                   | 71.9                                                                              | 47.0                                                                              |                                                                                   | 8.2                                                                                | 18.0                                                                                |                                                                                     | 88.7                                                                                | 14.8                                                                                |                                                                                     |
| Queue Delay             | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                                | 0.0                                                                                 |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Delay             | 31.4                                                                              | 42.7                                                                              |                                                                                   | 71.9                                                                              | 47.0                                                                              |                                                                                   | 8.2                                                                                | 18.0                                                                                |                                                                                     | 88.7                                                                                | 14.8                                                                                |                                                                                     |
| LOS                     | C                                                                                 | D                                                                                 |                                                                                   | E                                                                                 | D                                                                                 |                                                                                   | A                                                                                  | B                                                                                   |                                                                                     | F                                                                                   | B                                                                                   |                                                                                     |
| Approach Delay          |                                                                                   | 41.2                                                                              |                                                                                   |                                                                                   | 55.2                                                                              |                                                                                   |                                                                                    | 17.6                                                                                |                                                                                     |                                                                                     | 26.6                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | D                                                                                 |                                                                                   |                                                                                   | E                                                                                 |                                                                                   |                                                                                    | B                                                                                   |                                                                                     |                                                                                     | C                                                                                   |                                                                                     |
| Queue Length 50th (ft)  | 17                                                                                | 127                                                                               |                                                                                   | 66                                                                                | 134                                                                               |                                                                                   | 8                                                                                  | 307                                                                                 |                                                                                     | 70                                                                                  | 261                                                                                 |                                                                                     |
| Queue Length 95th (ft)  | 46                                                                                | #240                                                                              |                                                                                   | #168                                                                              | #259                                                                              |                                                                                   | 25                                                                                 | 500                                                                                 |                                                                                     | #119                                                                                | 416                                                                                 |                                                                                     |
| Internal Link Dist (ft) |                                                                                   | 1922                                                                              |                                                                                   |                                                                                   | 506                                                                               |                                                                                   |                                                                                    | 1168                                                                                |                                                                                     |                                                                                     | 1421                                                                                |                                                                                     |
| Turn Bay Length (ft)    | 140                                                                               |                                                                                   |                                                                                   | 140                                                                               |                                                                                   |                                                                                   | 120                                                                                |                                                                                     |                                                                                     | 110                                                                                 |                                                                                     |                                                                                     |
| Base Capacity (vph)     | 164                                                                               | 388                                                                               |                                                                                   | 173                                                                               | 376                                                                               |                                                                                   | 248                                                                                | 1302                                                                                |                                                                                     | 191                                                                                 | 1303                                                                                |                                                                                     |
| Starvation Cap Reductn  | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                  | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     |
| Spillback Cap Reductn   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                  | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     |
| Storage Cap Reductn     | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                  | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     |
| Reduced v/c Ratio       | 0.24                                                                              | 0.70                                                                              |                                                                                   | 0.79                                                                              | 0.74                                                                              |                                                                                   | 0.20                                                                               | 0.75                                                                                |                                                                                     | 0.90                                                                                | 0.69                                                                                |                                                                                     |

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 75.2

Natural Cycle: 80

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.00

Intersection Signal Delay: 29.2

Intersection LOS: C

Intersection Capacity Utilization 93.1%

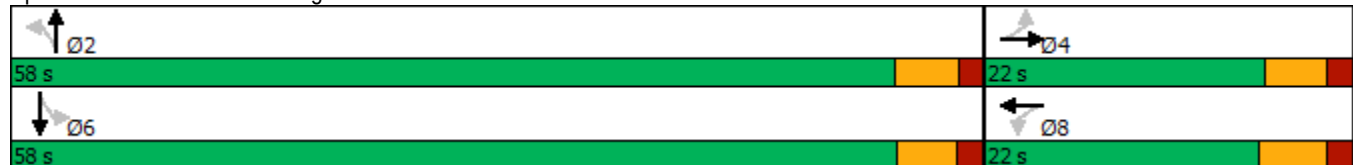
ICU Level of Service F

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 6: Stallings Rd & Matthews-Indian Trail Rd



Lanes, Volumes, Timings  
7: Mt. Harmony Church Rd & Stevens Mill Rd

Stallings Farms TIA  
2032 Build PM

|                         |  |       |      |       |       |      |      |       |      |       |       |      |
|-------------------------|------------------------------------------------------------------------------------|-------|------|-------|-------|------|------|-------|------|-------|-------|------|
| Lane Group              | EBL                                                                                | EBT   | EBR  | WBL   | WBT   | WBR  | NBL  | NBT   | NBR  | SBL   | SBT   | SBR  |
| Lane Configurations     |                                                                                    | ↕     |      | ↗     | ↖     |      |      | ↕     |      | ↗     | ↖     |      |
| Traffic Volume (vph)    | 21                                                                                 | 12    | 4    | 10    | 8     | 93   | 5    | 145   | 90   | 204   | 56    | 4    |
| Future Volume (vph)     | 21                                                                                 | 12    | 4    | 10    | 8     | 93   | 5    | 145   | 90   | 204   | 56    | 4    |
| Ideal Flow (vphpl)      | 1900                                                                               | 1900  | 1900 | 1900  | 1900  | 1900 | 1900 | 1900  | 1900 | 1900  | 1900  | 1900 |
| Storage Length (ft)     | 0                                                                                  |       | 0    | 125   |       | 0    | 0    |       | 0    | 150   |       | 0    |
| Storage Lanes           | 0                                                                                  |       | 0    | 1     |       | 0    | 0    |       | 0    | 1     |       | 0    |
| Taper Length (ft)       | 25                                                                                 |       |      | 125   |       |      | 25   |       |      | 100   |       |      |
| Lane Util. Factor       | 1.00                                                                               | 1.00  | 1.00 | 1.00  | 1.00  | 1.00 | 1.00 | 1.00  | 1.00 | 1.00  | 1.00  | 1.00 |
| Frt                     |                                                                                    | 0.986 |      |       | 0.862 |      |      | 0.949 |      |       | 0.991 |      |
| Flt Protected           |                                                                                    | 0.972 |      | 0.950 |       |      |      | 0.999 |      | 0.950 |       |      |
| Satd. Flow (prot)       | 0                                                                                  | 1592  | 0    | 1770  | 1591  | 0    | 0    | 1723  | 0    | 1770  | 1829  | 0    |
| Flt Permitted           |                                                                                    | 0.972 |      | 0.950 |       |      |      | 0.999 |      | 0.950 |       |      |
| Satd. Flow (perm)       | 0                                                                                  | 1592  | 0    | 1770  | 1591  | 0    | 0    | 1723  | 0    | 1770  | 1829  | 0    |
| Link Speed (mph)        |                                                                                    | 35    |      |       | 35    |      |      | 35    |      |       | 35    |      |
| Link Distance (ft)      |                                                                                    | 831   |      |       | 703   |      |      | 907   |      |       | 461   |      |
| Travel Time (s)         |                                                                                    | 16.2  |      |       | 13.7  |      |      | 17.7  |      |       | 9.0   |      |
| Peak Hour Factor        | 0.90                                                                               | 0.90  | 0.90 | 0.90  | 0.90  | 0.90 | 0.90 | 0.90  | 0.90 | 0.90  | 0.90  | 0.90 |
| Heavy Vehicles (%)      | 2%                                                                                 | 40%   | 2%   | 2%    | 2%    | 3%   | 33%  | 2%    | 7%   | 2%    | 3%    | 2%   |
| Adj. Flow (vph)         | 23                                                                                 | 13    | 4    | 11    | 9     | 103  | 6    | 161   | 100  | 227   | 62    | 4    |
| Shared Lane Traffic (%) |                                                                                    |       |      |       |       |      |      |       |      |       |       |      |
| Lane Group Flow (vph)   | 0                                                                                  | 40    | 0    | 11    | 112   | 0    | 0    | 267   | 0    | 227   | 66    | 0    |
| Sign Control            |                                                                                    | Stop  |      |       | Stop  |      |      | Free  |      |       | Free  |      |

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 43.4% ICU Level of Service A

Analysis Period (min) 15

# HCM Unsignalized Intersection Capacity Analysis

## 7: Mt. Harmony Church Rd & Stevens Mill Rd

Stallings Farms TIA  
2032 Build PM

|                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                                   |  |  |  |  |  |  |  |  |  |  |  |  |
| Movement                          | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |                                                                                   |  |                                                                                   |  |  |                                                                                   |                                                                                    |  |                                                                                     |  |  |                                                                                     |
| Traffic Volume (veh/h)            | 21                                                                                | 12                                                                                | 4                                                                                 | 10                                                                                | 8                                                                                 | 93                                                                                | 5                                                                                  | 145                                                                                 | 90                                                                                  | 204                                                                                 | 56                                                                                  | 4                                                                                   |
| Future Volume (Veh/h)             | 21                                                                                | 12                                                                                | 4                                                                                 | 10                                                                                | 8                                                                                 | 93                                                                                | 5                                                                                  | 145                                                                                 | 90                                                                                  | 204                                                                                 | 56                                                                                  | 4                                                                                   |
| Sign Control                      |                                                                                   | Stop                                                                              |                                                                                   |                                                                                   | Stop                                                                              |                                                                                   |                                                                                    | Free                                                                                |                                                                                     |                                                                                     | Free                                                                                |                                                                                     |
| Grade                             |                                                                                   | 0%                                                                                |                                                                                   |                                                                                   | 0%                                                                                |                                                                                   |                                                                                    | 0%                                                                                  |                                                                                     |                                                                                     | 0%                                                                                  |                                                                                     |
| Peak Hour Factor                  | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                               | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                |
| Hourly flow rate (vph)            | 23                                                                                | 13                                                                                | 4                                                                                 | 11                                                                                | 9                                                                                 | 103                                                                               | 6                                                                                  | 161                                                                                 | 100                                                                                 | 227                                                                                 | 62                                                                                  | 4                                                                                   |
| Pedestrians                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Width (ft)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Walking Speed (ft/s)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Percent Blockage                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Right turn flare (veh)            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Median type                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    | None                                                                                |                                                                                     |                                                                                     | None                                                                                |                                                                                     |
| Median storage (veh)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Upstream signal (ft)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| pX, platoon unblocked             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| vC, conflicting volume            | 848                                                                               | 791                                                                               | 64                                                                                | 750                                                                               | 743                                                                               | 211                                                                               | 66                                                                                 |                                                                                     |                                                                                     | 261                                                                                 |                                                                                     |                                                                                     |
| vC1, stage 1 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| vC2, stage 2 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| vCu, unblocked vol                | 848                                                                               | 791                                                                               | 64                                                                                | 750                                                                               | 743                                                                               | 211                                                                               | 66                                                                                 |                                                                                     |                                                                                     | 261                                                                                 |                                                                                     |                                                                                     |
| tC, single (s)                    | 7.1                                                                               | 6.9                                                                               | 6.2                                                                               | 7.1                                                                               | 6.5                                                                               | 6.2                                                                               | 4.4                                                                                |                                                                                     |                                                                                     | 4.1                                                                                 |                                                                                     |                                                                                     |
| tC, 2 stage (s)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| tF (s)                            | 3.5                                                                               | 4.4                                                                               | 3.3                                                                               | 3.5                                                                               | 4.0                                                                               | 3.3                                                                               | 2.5                                                                                |                                                                                     |                                                                                     | 2.2                                                                                 |                                                                                     |                                                                                     |
| p0 queue free %                   | 89                                                                                | 94                                                                                | 100                                                                               | 96                                                                                | 97                                                                                | 88                                                                                | 100                                                                                |                                                                                     |                                                                                     | 83                                                                                  |                                                                                     |                                                                                     |
| cM capacity (veh/h)               | 207                                                                               | 232                                                                               | 1000                                                                              | 270                                                                               | 282                                                                               | 827                                                                               | 1360                                                                               |                                                                                     |                                                                                     | 1303                                                                                |                                                                                     |                                                                                     |
| Direction, Lane #                 | EB 1                                                                              | WB 1                                                                              | WB 2                                                                              | NB 1                                                                              | SB 1                                                                              | SB 2                                                                              |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Total                      | 40                                                                                | 11                                                                                | 112                                                                               | 267                                                                               | 227                                                                               | 66                                                                                |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Left                       | 23                                                                                | 11                                                                                | 0                                                                                 | 6                                                                                 | 227                                                                               | 0                                                                                 |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Right                      | 4                                                                                 | 0                                                                                 | 103                                                                               | 100                                                                               | 0                                                                                 | 4                                                                                 |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| cSH                               | 234                                                                               | 270                                                                               | 716                                                                               | 1360                                                                              | 1303                                                                              | 1700                                                                              |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume to Capacity                | 0.17                                                                              | 0.04                                                                              | 0.16                                                                              | 0.00                                                                              | 0.17                                                                              | 0.04                                                                              |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Queue Length 95th (ft)            | 15                                                                                | 3                                                                                 | 14                                                                                | 0                                                                                 | 16                                                                                | 0                                                                                 |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Control Delay (s)                 | 23.5                                                                              | 18.9                                                                              | 11.0                                                                              | 0.2                                                                               | 8.3                                                                               | 0.0                                                                               |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane LOS                          | C                                                                                 | C                                                                                 | B                                                                                 | A                                                                                 | A                                                                                 |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Approach Delay (s)                | 23.5                                                                              | 11.7                                                                              |                                                                                   | 0.2                                                                               | 6.5                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Approach LOS                      | C                                                                                 | B                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Average Delay                     |                                                                                   |                                                                                   | 6.0                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 43.4%                                                                             |                                                                                   | ICU Level of Service                                                              |                                                                                   |                                                                                    |                                                                                     | A                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

Lanes, Volumes, Timings  
8: Oakspring Rd & Stevens Mill Rd

Stallings Farms TIA  
2032 Build PM

|                         |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group              | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | NBL                                                                               | NBR                                                                               |
| Lane Configurations     |  |  |                                                                                   |  |  |  |
| Traffic Volume (vph)    | 669                                                                               | 477                                                                               | 119                                                                               | 346                                                                               | 205                                                                               | 138                                                                               |
| Future Volume (vph)     | 669                                                                               | 477                                                                               | 119                                                                               | 346                                                                               | 205                                                                               | 138                                                                               |
| Ideal Flow (vphpl)      | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Storage Length (ft)     |                                                                                   | 100                                                                               | 175                                                                               |                                                                                   | 0                                                                                 | 100                                                                               |
| Storage Lanes           |                                                                                   | 1                                                                                 | 0                                                                                 |                                                                                   | 1                                                                                 | 1                                                                                 |
| Taper Length (ft)       |                                                                                   |                                                                                   | 100                                                                               |                                                                                   | 25                                                                                |                                                                                   |
| Lane Util. Factor       | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Frt                     |                                                                                   | 0.850                                                                             |                                                                                   |                                                                                   |                                                                                   | 0.850                                                                             |
| Flt Protected           |                                                                                   |                                                                                   |                                                                                   | 0.987                                                                             | 0.950                                                                             |                                                                                   |
| Satd. Flow (prot)       | 1863                                                                              | 1524                                                                              | 0                                                                                 | 1794                                                                              | 1770                                                                              | 1583                                                                              |
| Flt Permitted           |                                                                                   |                                                                                   |                                                                                   | 0.987                                                                             | 0.950                                                                             |                                                                                   |
| Satd. Flow (perm)       | 1863                                                                              | 1524                                                                              | 0                                                                                 | 1794                                                                              | 1770                                                                              | 1583                                                                              |
| Link Speed (mph)        | 45                                                                                |                                                                                   |                                                                                   | 45                                                                                | 35                                                                                |                                                                                   |
| Link Distance (ft)      | 940                                                                               |                                                                                   |                                                                                   | 594                                                                               | 438                                                                               |                                                                                   |
| Travel Time (s)         | 14.2                                                                              |                                                                                   |                                                                                   | 9.0                                                                               | 8.5                                                                               |                                                                                   |
| Peak Hour Factor        | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              |
| Heavy Vehicles (%)      | 2%                                                                                | 6%                                                                                | 6%                                                                                | 4%                                                                                | 2%                                                                                | 2%                                                                                |
| Adj. Flow (vph)         | 743                                                                               | 530                                                                               | 132                                                                               | 384                                                                               | 228                                                                               | 153                                                                               |
| Shared Lane Traffic (%) |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)   | 743                                                                               | 530                                                                               | 0                                                                                 | 516                                                                               | 228                                                                               | 153                                                                               |
| Sign Control            | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              | Stop                                                                              |                                                                                   |

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 81.4% ICU Level of Service D

Analysis Period (min) 15

# HCM Unsignalized Intersection Capacity Analysis

## 8: Oakspring Rd & Stevens Mill Rd

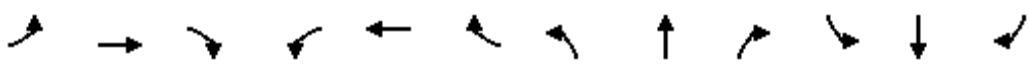
Stallings Farms TIA  
2032 Build PM

|                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|                                   |  |  |  |  |  |  |
| Movement                          | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | NBL                                                                               | NBR                                                                               |
| Lane Configurations               |  |  |                                                                                   |  |  |  |
| Traffic Volume (veh/h)            | 669                                                                               | 477                                                                               | 119                                                                               | 346                                                                               | 205                                                                               | 138                                                                               |
| Future Volume (Veh/h)             | 669                                                                               | 477                                                                               | 119                                                                               | 346                                                                               | 205                                                                               | 138                                                                               |
| Sign Control                      | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              | Stop                                                                              |                                                                                   |
| Grade                             | 0%                                                                                |                                                                                   |                                                                                   | 0%                                                                                | 0%                                                                                |                                                                                   |
| Peak Hour Factor                  | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              |
| Hourly flow rate (vph)            | 743                                                                               | 530                                                                               | 132                                                                               | 384                                                                               | 228                                                                               | 153                                                                               |
| Pedestrians                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Width (ft)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Walking Speed (ft/s)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Percent Blockage                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Right turn flare (veh)            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 4                                                                                 |
| Median type                       | None                                                                              |                                                                                   | None                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Median storage veh                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Upstream signal (ft)              | 940                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| pX, platoon unblocked             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC, conflicting volume            |                                                                                   |                                                                                   | 1273                                                                              |                                                                                   | 1391                                                                              | 743                                                                               |
| vC1, stage 1 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC2, stage 2 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vCu, unblocked vol                |                                                                                   |                                                                                   | 1273                                                                              |                                                                                   | 1391                                                                              | 743                                                                               |
| tC, single (s)                    |                                                                                   |                                                                                   | 4.2                                                                               |                                                                                   | 6.4                                                                               | 6.2                                                                               |
| tC, 2 stage (s)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| tF (s)                            |                                                                                   |                                                                                   | 2.3                                                                               |                                                                                   | 3.5                                                                               | 3.3                                                                               |
| p0 queue free %                   |                                                                                   |                                                                                   | 75                                                                                |                                                                                   | 0                                                                                 | 63                                                                                |
| cM capacity (veh/h)               |                                                                                   |                                                                                   | 532                                                                               |                                                                                   | 118                                                                               | 415                                                                               |
| Direction, Lane #                 | EB 1                                                                              | EB 2                                                                              | WB 1                                                                              | NB 1                                                                              |                                                                                   |                                                                                   |
| Volume Total                      | 743                                                                               | 530                                                                               | 516                                                                               | 381                                                                               |                                                                                   |                                                                                   |
| Volume Left                       | 0                                                                                 | 0                                                                                 | 132                                                                               | 228                                                                               |                                                                                   |                                                                                   |
| Volume Right                      | 0                                                                                 | 530                                                                               | 0                                                                                 | 153                                                                               |                                                                                   |                                                                                   |
| cSH                               | 1700                                                                              | 1700                                                                              | 532                                                                               | 169                                                                               |                                                                                   |                                                                                   |
| Volume to Capacity                | 0.44                                                                              | 0.31                                                                              | 0.25                                                                              | 2.25                                                                              |                                                                                   |                                                                                   |
| Queue Length 95th (ft)            | 0                                                                                 | 0                                                                                 | 24                                                                                | 777                                                                               |                                                                                   |                                                                                   |
| Control Delay (s)                 | 0.0                                                                               | 0.0                                                                               | 6.9                                                                               | 625.7                                                                             |                                                                                   |                                                                                   |
| Lane LOS                          |                                                                                   |                                                                                   | A                                                                                 | F                                                                                 |                                                                                   |                                                                                   |
| Approach Delay (s)                | 0.0                                                                               |                                                                                   | 6.9                                                                               | 625.7                                                                             |                                                                                   |                                                                                   |
| Approach LOS                      |                                                                                   |                                                                                   |                                                                                   | F                                                                                 |                                                                                   |                                                                                   |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Average Delay                     |                                                                                   |                                                                                   | 111.5                                                                             |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 81.4%                                                                             | ICU Level of Service                                                              | D                                                                                 |                                                                                   |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |



Lanes, Volumes, Timings  
9: Stallings Rd & Access #1

Stallings Farms TIA  
2032 Build PM

|                         |  |       |      |      |       |      |      |       |      |      |       |      |
|-------------------------|------------------------------------------------------------------------------------|-------|------|------|-------|------|------|-------|------|------|-------|------|
| Lane Group              | EBL                                                                                | EBT   | EBR  | WBL  | WBT   | WBR  | NBL  | NBT   | NBR  | SBL  | SBT   | SBR  |
| Lane Configurations     |                                                                                    | ↕     |      |      | ↕     |      |      | ↕     |      |      | ↕     |      |
| Traffic Volume (vph)    | 8                                                                                  | 0     | 16   | 34   | 0     | 10   | 27   | 699   | 58   | 16   | 525   | 14   |
| Future Volume (vph)     | 8                                                                                  | 0     | 16   | 34   | 0     | 10   | 27   | 699   | 58   | 16   | 525   | 14   |
| Ideal Flow (vphpl)      | 1900                                                                               | 1900  | 1900 | 1900 | 1900  | 1900 | 1900 | 1900  | 1900 | 1900 | 1900  | 1900 |
| Storage Length (ft)     | 0                                                                                  |       | 0    | 0    |       | 0    | 100  |       | 100  | 0    |       | 100  |
| Storage Lanes           | 0                                                                                  |       | 0    | 0    |       | 0    | 0    |       | 0    | 0    |       | 0    |
| Taper Length (ft)       | 25                                                                                 |       |      | 25   |       |      | 100  |       |      | 25   |       |      |
| Lane Util. Factor       | 1.00                                                                               | 1.00  | 1.00 | 1.00 | 1.00  | 1.00 | 1.00 | 1.00  | 1.00 | 1.00 | 1.00  | 1.00 |
| Frt                     |                                                                                    | 0.910 |      |      | 0.970 |      |      | 0.990 |      |      | 0.996 |      |
| Flt Protected           |                                                                                    | 0.984 |      |      | 0.963 |      |      | 0.998 |      |      | 0.999 |      |
| Satd. Flow (prot)       | 0                                                                                  | 1668  | 0    | 0    | 1740  | 0    | 0    | 1824  | 0    | 0    | 1820  | 0    |
| Flt Permitted           |                                                                                    | 0.984 |      |      | 0.963 |      |      | 0.998 |      |      | 0.999 |      |
| Satd. Flow (perm)       | 0                                                                                  | 1668  | 0    | 0    | 1740  | 0    | 0    | 1824  | 0    | 0    | 1820  | 0    |
| Link Speed (mph)        |                                                                                    | 25    |      |      | 25    |      |      | 45    |      |      | 45    |      |
| Link Distance (ft)      |                                                                                    | 1031  |      |      | 1006  |      |      | 1189  |      |      | 486   |      |
| Travel Time (s)         |                                                                                    | 28.1  |      |      | 27.4  |      |      | 18.0  |      |      | 7.4   |      |
| Peak Hour Factor        | 0.90                                                                               | 0.90  | 0.90 | 0.90 | 0.90  | 0.90 | 0.90 | 0.90  | 0.90 | 0.90 | 0.90  | 0.90 |
| Heavy Vehicles (%)      | 2%                                                                                 | 2%    | 2%   | 2%   | 2%    | 2%   | 2%   | 3%    | 2%   | 2%   | 4%    | 2%   |
| Adj. Flow (vph)         | 9                                                                                  | 0     | 18   | 38   | 0     | 11   | 30   | 777   | 64   | 18   | 583   | 16   |
| Shared Lane Traffic (%) |                                                                                    |       |      |      |       |      |      |       |      |      |       |      |
| Lane Group Flow (vph)   | 0                                                                                  | 27    | 0    | 0    | 49    | 0    | 0    | 871   | 0    | 0    | 617   | 0    |
| Sign Control            |                                                                                    | Stop  |      |      | Stop  |      |      | Free  |      |      | Free  |      |

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 64.2%

ICU Level of Service C

Analysis Period (min) 15

# HCM Unsignalized Intersection Capacity Analysis

## 9: Stallings Rd & Access #1

Stallings Farms TIA

2032 Build PM

|                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                                   |  |  |  |  |  |  |  |  |  |  |  |  |
| Movement                          | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                   |                                                                                    |  |                                                                                     |                                                                                     |  |                                                                                     |
| Traffic Volume (veh/h)            | 8                                                                                 | 0                                                                                 | 16                                                                                | 34                                                                                | 0                                                                                 | 10                                                                                | 27                                                                                 | 699                                                                                 | 58                                                                                  | 16                                                                                  | 525                                                                                 | 14                                                                                  |
| Future Volume (Veh/h)             | 8                                                                                 | 0                                                                                 | 16                                                                                | 34                                                                                | 0                                                                                 | 10                                                                                | 27                                                                                 | 699                                                                                 | 58                                                                                  | 16                                                                                  | 525                                                                                 | 14                                                                                  |
| Sign Control                      | Stop                                                                              |                                                                                   |                                                                                   |                                                                                   | Stop                                                                              |                                                                                   |                                                                                    |                                                                                     | Free                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Grade                             | 0%                                                                                |                                                                                   |                                                                                   |                                                                                   | 0%                                                                                |                                                                                   |                                                                                    |                                                                                     | 0%                                                                                  |                                                                                     |                                                                                     |                                                                                     |
| Peak Hour Factor                  | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                               | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                |
| Hourly flow rate (vph)            | 9                                                                                 | 0                                                                                 | 18                                                                                | 38                                                                                | 0                                                                                 | 11                                                                                | 30                                                                                 | 777                                                                                 | 64                                                                                  | 18                                                                                  | 583                                                                                 | 16                                                                                  |
| Pedestrians                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Width (ft)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Walking Speed (ft/s)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Percent Blockage                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Right turn flare (veh)            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Median type                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | None                                                                               |                                                                                     |                                                                                     | None                                                                                |                                                                                     |                                                                                     |
| Median storage veh                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Upstream signal (ft)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 486                                                                                 |
| pX, platoon unblocked             | 0.83                                                                              | 0.83                                                                              | 0.83                                                                              | 0.83                                                                              | 0.83                                                                              |                                                                                   | 0.83                                                                               |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| vC, conflicting volume            | 1507                                                                              | 1528                                                                              | 591                                                                               | 1514                                                                              | 1504                                                                              | 809                                                                               | 599                                                                                |                                                                                     |                                                                                     | 841                                                                                 |                                                                                     |                                                                                     |
| vC1, stage 1 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| vC2, stage 2 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| vCu, unblocked vol                | 1508                                                                              | 1534                                                                              | 404                                                                               | 1517                                                                              | 1505                                                                              | 809                                                                               | 413                                                                                |                                                                                     |                                                                                     | 841                                                                                 |                                                                                     |                                                                                     |
| tC, single (s)                    | 7.1                                                                               | 6.5                                                                               | 6.2                                                                               | 7.1                                                                               | 6.5                                                                               | 6.2                                                                               | 4.1                                                                                |                                                                                     |                                                                                     | 4.1                                                                                 |                                                                                     |                                                                                     |
| tC, 2 stage (s)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| tF (s)                            | 3.5                                                                               | 4.0                                                                               | 3.3                                                                               | 3.5                                                                               | 4.0                                                                               | 3.3                                                                               | 2.2                                                                                |                                                                                     |                                                                                     | 2.2                                                                                 |                                                                                     |                                                                                     |
| p0 queue free %                   | 88                                                                                | 100                                                                               | 97                                                                                | 49                                                                                | 100                                                                               | 97                                                                                | 97                                                                                 |                                                                                     |                                                                                     | 98                                                                                  |                                                                                     |                                                                                     |
| cM capacity (veh/h)               | 76                                                                                | 91                                                                                | 536                                                                               | 75                                                                                | 95                                                                                | 380                                                                               | 950                                                                                |                                                                                     |                                                                                     | 794                                                                                 |                                                                                     |                                                                                     |
| Direction, Lane #                 | EB 1                                                                              | WB 1                                                                              | NB 1                                                                              | SB 1                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Total                      | 27                                                                                | 49                                                                                | 871                                                                               | 617                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Left                       | 9                                                                                 | 38                                                                                | 30                                                                                | 18                                                                                |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Right                      | 18                                                                                | 11                                                                                | 64                                                                                | 16                                                                                |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| cSH                               | 179                                                                               | 92                                                                                | 950                                                                               | 794                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume to Capacity                | 0.15                                                                              | 0.53                                                                              | 0.03                                                                              | 0.02                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Queue Length 95th (ft)            | 13                                                                                | 60                                                                                | 2                                                                                 | 2                                                                                 |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Control Delay (s)                 | 28.7                                                                              | 82.5                                                                              | 0.8                                                                               | 0.6                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane LOS                          | D                                                                                 | F                                                                                 | A                                                                                 | A                                                                                 |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Approach Delay (s)                | 28.7                                                                              | 82.5                                                                              | 0.8                                                                               | 0.6                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Approach LOS                      | D                                                                                 | F                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Average Delay                     |                                                                                   |                                                                                   | 3.8                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 64.2%                                                                             | ICU Level of Service                                                              |                                                                                   |                                                                                   |                                                                                    | C                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

Lanes, Volumes, Timings  
10: Oakspring Rd & Access #2

Stallings Farms TIA  
2032 Build PM



| Lane Group              | EBL   | EBR  | NBL  | NBT   | SBT   | SBR  |
|-------------------------|-------|------|------|-------|-------|------|
| Lane Configurations     |       |      |      |       |       |      |
| Traffic Volume (vph)    | 4     | 4    | 7    | 339   | 589   | 7    |
| Future Volume (vph)     | 4     | 4    | 7    | 339   | 589   | 7    |
| Ideal Flow (vphpl)      | 1900  | 1900 | 1900 | 1900  | 1900  | 1900 |
| Lane Util. Factor       | 1.00  | 1.00 | 1.00 | 1.00  | 1.00  | 1.00 |
| Frt                     | 0.932 |      |      |       | 0.998 |      |
| Flt Protected           | 0.976 |      |      | 0.999 |       |      |
| Satd. Flow (prot)       | 1694  | 0    | 0    | 1861  | 1790  | 0    |
| Flt Permitted           | 0.976 |      |      | 0.999 |       |      |
| Satd. Flow (perm)       | 1694  | 0    | 0    | 1861  | 1790  | 0    |
| Link Speed (mph)        | 25    |      |      | 35    | 35    |      |
| Link Distance (ft)      | 1024  |      |      | 537   | 438   |      |
| Travel Time (s)         | 27.9  |      |      | 10.5  | 8.5   |      |
| Peak Hour Factor        | 0.90  | 0.90 | 0.90 | 0.90  | 0.90  | 0.90 |
| Heavy Vehicles (%)      | 2%    | 2%   | 2%   | 2%    | 6%    | 2%   |
| Adj. Flow (vph)         | 4     | 4    | 8    | 377   | 654   | 8    |
| Shared Lane Traffic (%) |       |      |      |       |       |      |
| Lane Group Flow (vph)   | 8     | 0    | 0    | 385   | 662   | 0    |
| Sign Control            | Stop  |      |      | Free  | Free  |      |

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 41.4% ICU Level of Service A

Analysis Period (min) 15

# HCM Unsignalized Intersection Capacity Analysis

## 10: Oakspring Rd & Access #2

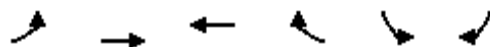
Stallings Farms TIA  
2032 Build PM



| Movement                          | EBL  | EBR   | NBL  | NBT                  | SBT  | SBR  |
|-----------------------------------|------|-------|------|----------------------|------|------|
| Lane Configurations               |      |       |      |                      |      |      |
| Traffic Volume (veh/h)            | 4    | 4     | 7    | 339                  | 589  | 7    |
| Future Volume (Veh/h)             | 4    | 4     | 7    | 339                  | 589  | 7    |
| Sign Control                      | Stop |       |      | Free                 | Free |      |
| Grade                             | 0%   |       |      | 0%                   | 0%   |      |
| Peak Hour Factor                  | 0.90 | 0.90  | 0.90 | 0.90                 | 0.90 | 0.90 |
| Hourly flow rate (vph)            | 4    | 4     | 8    | 377                  | 654  | 8    |
| Pedestrians                       |      |       |      |                      |      |      |
| Lane Width (ft)                   |      |       |      |                      |      |      |
| Walking Speed (ft/s)              |      |       |      |                      |      |      |
| Percent Blockage                  |      |       |      |                      |      |      |
| Right turn flare (veh)            |      |       |      |                      |      |      |
| Median type                       |      |       |      | None                 | None |      |
| Median storage (veh)              |      |       |      |                      |      |      |
| Upstream signal (ft)              |      |       |      |                      |      |      |
| pX, platoon unblocked             |      |       |      |                      |      |      |
| vC, conflicting volume            | 1051 | 658   | 662  |                      |      |      |
| vC1, stage 1 conf vol             |      |       |      |                      |      |      |
| vC2, stage 2 conf vol             |      |       |      |                      |      |      |
| vCu, unblocked vol                | 1051 | 658   | 662  |                      |      |      |
| tC, single (s)                    | 6.4  | 6.2   | 4.1  |                      |      |      |
| tC, 2 stage (s)                   |      |       |      |                      |      |      |
| tF (s)                            | 3.5  | 3.3   | 2.2  |                      |      |      |
| p0 queue free %                   | 98   | 99    | 99   |                      |      |      |
| cM capacity (veh/h)               | 249  | 464   | 927  |                      |      |      |
| Direction, Lane #                 | EB 1 | NB 1  | SB 1 |                      |      |      |
| Volume Total                      | 8    | 385   | 662  |                      |      |      |
| Volume Left                       | 4    | 8     | 0    |                      |      |      |
| Volume Right                      | 4    | 0     | 8    |                      |      |      |
| cSH                               | 324  | 927   | 1700 |                      |      |      |
| Volume to Capacity                | 0.02 | 0.01  | 0.39 |                      |      |      |
| Queue Length 95th (ft)            | 2    | 1     | 0    |                      |      |      |
| Control Delay (s)                 | 16.4 | 0.3   | 0.0  |                      |      |      |
| Lane LOS                          | C    | A     |      |                      |      |      |
| Approach Delay (s)                | 16.4 | 0.3   | 0.0  |                      |      |      |
| Approach LOS                      | C    |       |      |                      |      |      |
| Intersection Summary              |      |       |      |                      |      |      |
| Average Delay                     |      |       | 0.2  |                      |      |      |
| Intersection Capacity Utilization |      | 41.4% |      | ICU Level of Service |      | A    |
| Analysis Period (min)             |      | 15    |      |                      |      |      |

Lanes, Volumes, Timings  
11: Sweet Birch Dr & Access #3

Stallings Farms TIA  
2032 Build PM



| Lane Group              | EBL  | EBT   | WBT  | WBR  | SBL   | SBR  |
|-------------------------|------|-------|------|------|-------|------|
| Lane Configurations     |      |       |      |      |       |      |
| Traffic Volume (vph)    | 8    | 97    | 56   | 0    | 0     | 5    |
| Future Volume (vph)     | 8    | 97    | 56   | 0    | 0     | 5    |
| Ideal Flow (vphpl)      | 1900 | 1900  | 1900 | 1900 | 1900  | 1900 |
| Lane Util. Factor       | 1.00 | 1.00  | 1.00 | 1.00 | 1.00  | 1.00 |
| Frt                     |      |       |      |      | 0.865 |      |
| Flt Protected           |      | 0.996 |      |      |       |      |
| Satd. Flow (prot)       | 0    | 1855  | 1863 | 0    | 1611  | 0    |
| Flt Permitted           |      | 0.996 |      |      |       |      |
| Satd. Flow (perm)       | 0    | 1855  | 1863 | 0    | 1611  | 0    |
| Link Speed (mph)        |      | 25    | 25   |      | 25    |      |
| Link Distance (ft)      |      | 398   | 289  |      | 1013  |      |
| Travel Time (s)         |      | 10.9  | 7.9  |      | 27.6  |      |
| Peak Hour Factor        | 0.90 | 0.90  | 0.90 | 0.90 | 0.90  | 0.90 |
| Adj. Flow (vph)         | 9    | 108   | 62   | 0    | 0     | 6    |
| Shared Lane Traffic (%) |      |       |      |      |       |      |
| Lane Group Flow (vph)   | 0    | 117   | 62   | 0    | 6     | 0    |
| Sign Control            |      | Free  | Free |      | Stop  |      |

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 21.7% ICU Level of Service A

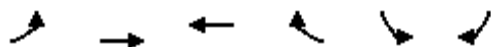
Analysis Period (min) 15

# HCM Unsignalized Intersection Capacity Analysis

## 11: Sweet Birch Dr & Access #3

Stallings Farms TIA

2032 Build PM



| Movement                          | EBL  | EBT                                                                               | WBT                                                                               | WBR                  | SBL                                                                               | SBR  |
|-----------------------------------|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|----------------------|-----------------------------------------------------------------------------------|------|
| Lane Configurations               |      |  |  |                      |  |      |
| Traffic Volume (veh/h)            | 8    | 97                                                                                | 56                                                                                | 0                    | 0                                                                                 | 5    |
| Future Volume (Veh/h)             | 8    | 97                                                                                | 56                                                                                | 0                    | 0                                                                                 | 5    |
| Sign Control                      |      | Free                                                                              | Free                                                                              |                      | Stop                                                                              |      |
| Grade                             |      | 0%                                                                                | 0%                                                                                |                      | 0%                                                                                |      |
| Peak Hour Factor                  | 0.90 | 0.90                                                                              | 0.90                                                                              | 0.90                 | 0.90                                                                              | 0.90 |
| Hourly flow rate (vph)            | 9    | 108                                                                               | 62                                                                                | 0                    | 0                                                                                 | 6    |
| Pedestrians                       |      |                                                                                   |                                                                                   |                      |                                                                                   |      |
| Lane Width (ft)                   |      |                                                                                   |                                                                                   |                      |                                                                                   |      |
| Walking Speed (ft/s)              |      |                                                                                   |                                                                                   |                      |                                                                                   |      |
| Percent Blockage                  |      |                                                                                   |                                                                                   |                      |                                                                                   |      |
| Right turn flare (veh)            |      |                                                                                   |                                                                                   |                      |                                                                                   |      |
| Median type                       |      | None                                                                              | None                                                                              |                      |                                                                                   |      |
| Median storage veh)               |      |                                                                                   |                                                                                   |                      |                                                                                   |      |
| Upstream signal (ft)              |      |                                                                                   |                                                                                   |                      |                                                                                   |      |
| pX, platoon unblocked             |      |                                                                                   |                                                                                   |                      |                                                                                   |      |
| vC, conflicting volume            | 62   |                                                                                   |                                                                                   |                      | 188                                                                               | 62   |
| vC1, stage 1 conf vol             |      |                                                                                   |                                                                                   |                      |                                                                                   |      |
| vC2, stage 2 conf vol             |      |                                                                                   |                                                                                   |                      |                                                                                   |      |
| vCu, unblocked vol                | 62   |                                                                                   |                                                                                   |                      | 188                                                                               | 62   |
| tC, single (s)                    | 4.1  |                                                                                   |                                                                                   |                      | 6.4                                                                               | 6.2  |
| tC, 2 stage (s)                   |      |                                                                                   |                                                                                   |                      |                                                                                   |      |
| tF (s)                            | 2.2  |                                                                                   |                                                                                   |                      | 3.5                                                                               | 3.3  |
| p0 queue free %                   | 99   |                                                                                   |                                                                                   |                      | 100                                                                               | 99   |
| cM capacity (veh/h)               | 1541 |                                                                                   |                                                                                   |                      | 796                                                                               | 1003 |
| Direction, Lane #                 | EB 1 | WB 1                                                                              | SB 1                                                                              |                      |                                                                                   |      |
| Volume Total                      | 117  | 62                                                                                | 6                                                                                 |                      |                                                                                   |      |
| Volume Left                       | 9    | 0                                                                                 | 0                                                                                 |                      |                                                                                   |      |
| Volume Right                      | 0    | 0                                                                                 | 6                                                                                 |                      |                                                                                   |      |
| cSH                               | 1541 | 1700                                                                              | 1003                                                                              |                      |                                                                                   |      |
| Volume to Capacity                | 0.01 | 0.04                                                                              | 0.01                                                                              |                      |                                                                                   |      |
| Queue Length 95th (ft)            | 0    | 0                                                                                 | 0                                                                                 |                      |                                                                                   |      |
| Control Delay (s)                 | 0.6  | 0.0                                                                               | 8.6                                                                               |                      |                                                                                   |      |
| Lane LOS                          | A    |                                                                                   | A                                                                                 |                      |                                                                                   |      |
| Approach Delay (s)                | 0.6  | 0.0                                                                               | 8.6                                                                               |                      |                                                                                   |      |
| Approach LOS                      |      |                                                                                   | A                                                                                 |                      |                                                                                   |      |
| Intersection Summary              |      |                                                                                   |                                                                                   |                      |                                                                                   |      |
| Average Delay                     |      |                                                                                   | 0.7                                                                               |                      |                                                                                   |      |
| Intersection Capacity Utilization |      |                                                                                   | 21.7%                                                                             | ICU Level of Service |                                                                                   | A    |
| Analysis Period (min)             |      |                                                                                   | 15                                                                                |                      |                                                                                   |      |

## Queuing and Blocking Reports





## 2020 Existing Conditions



## Intersection: 1: Stallings Rd &amp; Stevens Mill Rd

| Movement              | EB   | WB  | WB  | NB  | NB   | SB  | SB   |
|-----------------------|------|-----|-----|-----|------|-----|------|
| Directions Served     | LTR  | LT  | R   | L   | TR   | L   | TR   |
| Maximum Queue (ft)    | 92   | 227 | 131 | 46  | 147  | 221 | 207  |
| Average Queue (ft)    | 39   | 82  | 52  | 15  | 70   | 71  | 56   |
| 95th Queue (ft)       | 70   | 172 | 94  | 42  | 124  | 164 | 160  |
| Link Distance (ft)    | 1604 | 860 |     |     | 1620 |     | 1457 |
| Upstream Blk Time (%) |      |     |     |     |      |     |      |
| Queuing Penalty (veh) |      |     |     |     |      |     |      |
| Storage Bay Dist (ft) |      |     | 300 | 150 |      | 150 |      |
| Storage Blk Time (%)  |      | 0   |     |     | 0    | 5   | 0    |
| Queuing Penalty (veh) |      | 0   |     |     | 0    | 14  | 0    |

## Intersection: 2: Stallings Rd &amp; Sweet Birch Dr

| Movement              | WB  | SB   |
|-----------------------|-----|------|
| Directions Served     | LR  | LT   |
| Maximum Queue (ft)    | 71  | 38   |
| Average Queue (ft)    | 31  | 3    |
| 95th Queue (ft)       | 56  | 19   |
| Link Distance (ft)    | 520 | 1620 |
| Upstream Blk Time (%) |     |      |
| Queuing Penalty (veh) |     |      |
| Storage Bay Dist (ft) |     |      |
| Storage Blk Time (%)  |     |      |
| Queuing Penalty (veh) |     |      |

## Intersection: 3: Nouvelle Dr &amp; Sweet Birch Dr

| Movement              | NB  |
|-----------------------|-----|
| Directions Served     | LR  |
| Maximum Queue (ft)    | 23  |
| Average Queue (ft)    | 7   |
| 95th Queue (ft)       | 25  |
| Link Distance (ft)    | 998 |
| Upstream Blk Time (%) |     |
| Queuing Penalty (veh) |     |
| Storage Bay Dist (ft) |     |
| Storage Blk Time (%)  |     |
| Queuing Penalty (veh) |     |

## Intersection: 4: Stallings Rd &amp; Monroe Expressway WB Ramp

| Movement              | WB  | WB   | WB   | NB  | NB  | NB  | NB  | SB  | SB  | SB  | SB  |
|-----------------------|-----|------|------|-----|-----|-----|-----|-----|-----|-----|-----|
| Directions Served     | L   | T    | TR   | L   | L   | T   | T   | T   | T   | T   | TR  |
| Maximum Queue (ft)    | 223 | 158  | 216  | 179 | 172 | 75  | 67  | 54  | 83  | 162 | 175 |
| Average Queue (ft)    | 100 | 59   | 107  | 140 | 144 | 11  | 7   | 14  | 11  | 55  | 69  |
| 95th Queue (ft)       | 192 | 117  | 184  | 188 | 186 | 43  | 36  | 39  | 52  | 114 | 135 |
| Link Distance (ft)    |     | 2330 | 2330 | 154 | 154 | 154 | 154 | 915 | 915 |     |     |
| Upstream Blk Time (%) |     |      |      | 15  | 16  |     | 0   |     |     |     |     |
| Queuing Penalty (veh) |     |      |      | 24  | 25  |     | 0   |     |     |     |     |
| Storage Bay Dist (ft) | 325 |      |      |     |     |     |     |     |     | 200 | 200 |
| Storage Blk Time (%)  |     |      |      |     |     |     |     |     | 0   | 0   | 0   |
| Queuing Penalty (veh) |     |      |      |     |     |     |     |     | 0   | 0   | 0   |

## Intersection: 5: Stallings Rd &amp; Monroe Expressway EB Ramp

| Movement              | EB   | EB   | NB  | NB  | NB   | NB   | SB  | SB  | SB  | SB  |
|-----------------------|------|------|-----|-----|------|------|-----|-----|-----|-----|
| Directions Served     | LT   | TR   | T   | T   | T    | TR   | L   | L   | T   | T   |
| Maximum Queue (ft)    | 322  | 389  | 291 | 299 | 143  | 174  | 75  | 72  | 52  | 42  |
| Average Queue (ft)    | 148  | 191  | 128 | 148 | 53   | 79   | 28  | 24  | 8   | 4   |
| 95th Queue (ft)       | 254  | 322  | 250 | 261 | 109  | 143  | 60  | 59  | 31  | 22  |
| Link Distance (ft)    | 1722 | 1722 |     |     | 1414 | 1414 | 154 | 154 | 154 | 154 |
| Upstream Blk Time (%) |      |      |     |     |      |      |     |     |     |     |
| Queuing Penalty (veh) |      |      |     |     |      |      |     |     |     |     |
| Storage Bay Dist (ft) |      |      | 425 | 425 |      |      |     |     |     |     |
| Storage Blk Time (%)  |      |      |     |     |      |      |     |     |     |     |
| Queuing Penalty (veh) |      |      |     |     |      |      |     |     |     |     |

## Intersection: 6: Stallings Rd &amp; Matthews-Indian Trail Rd

| Movement              | EB  | EB   | WB  | WB  | NB  | NB   | SB  | SB   |
|-----------------------|-----|------|-----|-----|-----|------|-----|------|
| Directions Served     | L   | TR   | L   | TR  | L   | TR   | L   | TR   |
| Maximum Queue (ft)    | 42  | 99   | 125 | 107 | 99  | 188  | 119 | 200  |
| Average Queue (ft)    | 8   | 30   | 39  | 48  | 44  | 91   | 39  | 80   |
| 95th Queue (ft)       | 30  | 72   | 90  | 88  | 81  | 156  | 86  | 161  |
| Link Distance (ft)    |     | 1958 |     | 497 |     | 1217 |     | 1414 |
| Upstream Blk Time (%) |     |      |     |     |     |      |     |      |
| Queuing Penalty (veh) |     |      |     |     |     |      |     |      |
| Storage Bay Dist (ft) | 140 |      | 140 |     | 120 |      | 110 |      |
| Storage Blk Time (%)  |     |      | 0   |     | 0   | 2    | 0   | 2    |
| Queuing Penalty (veh) |     |      | 0   |     | 0   | 2    | 1   | 2    |

## Intersection: 7: Mt. Harmony Church Rd &amp; Stevens Mill Rd

| Movement              | EB  | WB  | WB  | NB  | SB  | SB  |
|-----------------------|-----|-----|-----|-----|-----|-----|
| Directions Served     | LTR | L   | TR  | LTR | L   | TR  |
| Maximum Queue (ft)    | 64  | 57  | 112 | 34  | 48  | 3   |
| Average Queue (ft)    | 6   | 17  | 45  | 2   | 11  | 0   |
| 95th Queue (ft)       | 29  | 42  | 87  | 14  | 35  | 2   |
| Link Distance (ft)    | 776 |     | 622 | 858 |     | 406 |
| Upstream Blk Time (%) |     |     |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |     |     |
| Storage Bay Dist (ft) |     | 125 |     |     | 150 |     |
| Storage Blk Time (%)  |     |     | 0   |     |     |     |
| Queuing Penalty (veh) |     |     | 0   |     |     |     |

## Intersection: 8: Oakspring Rd &amp; Stevens Mill Rd

| Movement              | EB  | WB  | NB   |
|-----------------------|-----|-----|------|
| Directions Served     | TR  | LT  | LR   |
| Maximum Queue (ft)    | 34  | 471 | 936  |
| Average Queue (ft)    | 5   | 100 | 421  |
| 95th Queue (ft)       | 21  | 282 | 1015 |
| Link Distance (ft)    | 860 | 576 | 888  |
| Upstream Blk Time (%) |     | 0   | 26   |
| Queuing Penalty (veh) |     | 0   | 0    |
| Storage Bay Dist (ft) |     |     |      |
| Storage Blk Time (%)  |     |     |      |
| Queuing Penalty (veh) |     |     |      |

## Network Summary

Network wide Queuing Penalty: 70

## Intersection: 1: Stallings Rd &amp; Stevens Mill Rd

| Movement              | EB   | WB  | WB  | NB  | NB   | SB  | SB   |
|-----------------------|------|-----|-----|-----|------|-----|------|
| Directions Served     | LTR  | LT  | R   | L   | TR   | L   | TR   |
| Maximum Queue (ft)    | 134  | 96  | 55  | 118 | 320  | 175 | 96   |
| Average Queue (ft)    | 52   | 44  | 29  | 14  | 141  | 74  | 42   |
| 95th Queue (ft)       | 96   | 76  | 50  | 65  | 285  | 138 | 72   |
| Link Distance (ft)    | 1604 | 860 |     |     | 1620 |     | 1457 |
| Upstream Blk Time (%) |      |     |     |     |      |     |      |
| Queuing Penalty (veh) |      |     |     |     |      |     |      |
| Storage Bay Dist (ft) |      |     | 300 | 150 |      | 150 |      |
| Storage Blk Time (%)  |      |     |     |     | 17   | 2   |      |
| Queuing Penalty (veh) |      |     |     |     | 2    | 3   |      |

## Intersection: 2: Stallings Rd &amp; Sweet Birch Dr

| Movement              | WB  | SB   |
|-----------------------|-----|------|
| Directions Served     | LR  | LT   |
| Maximum Queue (ft)    | 56  | 63   |
| Average Queue (ft)    | 25  | 12   |
| 95th Queue (ft)       | 51  | 42   |
| Link Distance (ft)    | 520 | 1620 |
| Upstream Blk Time (%) |     |      |
| Queuing Penalty (veh) |     |      |
| Storage Bay Dist (ft) |     |      |
| Storage Blk Time (%)  |     |      |
| Queuing Penalty (veh) |     |      |

## Intersection: 3: Nouvelle Dr &amp; Sweet Birch Dr

| Movement              | WB  | NB  |
|-----------------------|-----|-----|
| Directions Served     | LT  | LR  |
| Maximum Queue (ft)    | 16  | 23  |
| Average Queue (ft)    | 1   | 6   |
| 95th Queue (ft)       | 10  | 22  |
| Link Distance (ft)    | 416 | 998 |
| Upstream Blk Time (%) |     |     |
| Queuing Penalty (veh) |     |     |
| Storage Bay Dist (ft) |     |     |
| Storage Blk Time (%)  |     |     |
| Queuing Penalty (veh) |     |     |

## Intersection: 4: Stallings Rd &amp; Monroe Expressway WB Ramp

| Movement              | WB  | WB   | WB   | NB  | NB  | NB  | NB  | SB  | SB  | SB  | SB  |
|-----------------------|-----|------|------|-----|-----|-----|-----|-----|-----|-----|-----|
| Directions Served     | L   | T    | TR   | L   | L   | T   | T   | T   | T   | T   | TR  |
| Maximum Queue (ft)    | 215 | 131  | 208  | 165 | 167 | 49  | 64  | 62  | 55  | 146 | 172 |
| Average Queue (ft)    | 94  | 59   | 95   | 114 | 125 | 12  | 12  | 22  | 11  | 58  | 75  |
| 95th Queue (ft)       | 176 | 113  | 170  | 174 | 175 | 39  | 44  | 51  | 35  | 117 | 143 |
| Link Distance (ft)    |     | 2330 | 2330 | 154 | 154 | 154 | 154 | 915 | 915 |     |     |
| Upstream Blk Time (%) |     |      |      | 6   | 7   |     |     |     |     |     |     |
| Queuing Penalty (veh) |     |      |      | 12  | 14  |     |     |     |     |     |     |
| Storage Bay Dist (ft) | 325 |      |      |     |     |     |     |     |     | 200 | 200 |
| Storage Blk Time (%)  |     |      |      |     |     |     |     |     |     | 0   | 0   |
| Queuing Penalty (veh) |     |      |      |     |     |     |     |     |     | 0   | 0   |

## Intersection: 5: Stallings Rd &amp; Monroe Expressway EB Ramp

| Movement              | EB   | EB   | NB  | NB  | NB   | NB   | SB  | SB  | SB  | SB  |
|-----------------------|------|------|-----|-----|------|------|-----|-----|-----|-----|
| Directions Served     | LT   | TR   | T   | T   | T    | TR   | L   | L   | T   | T   |
| Maximum Queue (ft)    | 405  | 427  | 179 | 197 | 183  | 212  | 93  | 70  | 50  | 30  |
| Average Queue (ft)    | 176  | 214  | 84  | 111 | 77   | 108  | 35  | 22  | 9   | 4   |
| 95th Queue (ft)       | 323  | 354  | 155 | 174 | 150  | 179  | 73  | 58  | 32  | 19  |
| Link Distance (ft)    | 1722 | 1722 |     |     | 1414 | 1414 | 154 | 154 | 154 | 154 |
| Upstream Blk Time (%) |      |      |     |     |      |      | 0   |     |     |     |
| Queuing Penalty (veh) |      |      |     |     |      |      | 0   |     |     |     |
| Storage Bay Dist (ft) |      |      | 425 | 425 |      |      |     |     |     |     |
| Storage Blk Time (%)  |      |      |     |     |      |      |     |     |     |     |
| Queuing Penalty (veh) |      |      |     |     |      |      |     |     |     |     |

## Intersection: 6: Stallings Rd &amp; Matthews-Indian Trail Rd

| Movement              | EB  | EB   | WB  | WB  | NB  | NB   | SB  | SB   |
|-----------------------|-----|------|-----|-----|-----|------|-----|------|
| Directions Served     | L   | TR   | L   | TR  | L   | TR   | L   | TR   |
| Maximum Queue (ft)    | 38  | 171  | 90  | 126 | 80  | 237  | 114 | 202  |
| Average Queue (ft)    | 12  | 60   | 26  | 47  | 21  | 102  | 38  | 95   |
| 95th Queue (ft)       | 35  | 124  | 64  | 102 | 58  | 187  | 88  | 172  |
| Link Distance (ft)    |     | 1958 |     | 497 |     | 1217 |     | 1414 |
| Upstream Blk Time (%) |     |      |     |     |     |      |     |      |
| Queuing Penalty (veh) |     |      |     |     |     |      |     |      |
| Storage Bay Dist (ft) | 140 |      | 140 |     | 120 |      | 110 |      |
| Storage Blk Time (%)  |     | 1    |     | 0   |     | 3    | 0   | 4    |
| Queuing Penalty (veh) |     | 0    |     | 0   |     | 1    | 0   | 3    |

## Intersection: 7: Mt. Harmony Church Rd &amp; Stevens Mill Rd

| Movement              | EB  | WB  | WB  | NB  | SB |
|-----------------------|-----|-----|-----|-----|----|
| Directions Served     | LTR | L   | TR  | LTR | L  |
| Maximum Queue (ft)    | 35  | 29  | 31  | 16  | 44 |
| Average Queue (ft)    | 5   | 4   | 11  | 1   | 9  |
| 95th Queue (ft)       | 20  | 19  | 25  | 8   | 28 |
| Link Distance (ft)    | 776 |     | 622 | 858 |    |
| Upstream Blk Time (%) |     |     |     |     |    |
| Queuing Penalty (veh) |     |     |     |     |    |
| Storage Bay Dist (ft) |     | 125 |     | 150 |    |
| Storage Blk Time (%)  |     |     |     |     |    |
| Queuing Penalty (veh) |     |     |     |     |    |

## Intersection: 8: Oakspring Rd &amp; Stevens Mill Rd

| Movement              | EB  | WB  | NB  |
|-----------------------|-----|-----|-----|
| Directions Served     | TR  | LT  | LR  |
| Maximum Queue (ft)    | 27  | 144 | 288 |
| Average Queue (ft)    | 4   | 44  | 98  |
| 95th Queue (ft)       | 18  | 104 | 250 |
| Link Distance (ft)    | 860 | 576 | 888 |
| Upstream Blk Time (%) |     |     |     |
| Queuing Penalty (veh) |     |     |     |
| Storage Bay Dist (ft) |     |     |     |
| Storage Blk Time (%)  |     |     |     |
| Queuing Penalty (veh) |     |     |     |

## Network Summary

|                                  |
|----------------------------------|
| Network wide Queuing Penalty: 36 |
|----------------------------------|



## Turn Lane Warrants



2027 Build AM

VNBR=11  
V<sub>o</sub>=100  
S=0

VSBL=19  
V<sub>o</sub>=347  
S=0

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2027 Build PM

VNBR=42  
V<sub>o</sub>=100  
S=50'

VSBL=55  
V<sub>o</sub>=703  
S=75'

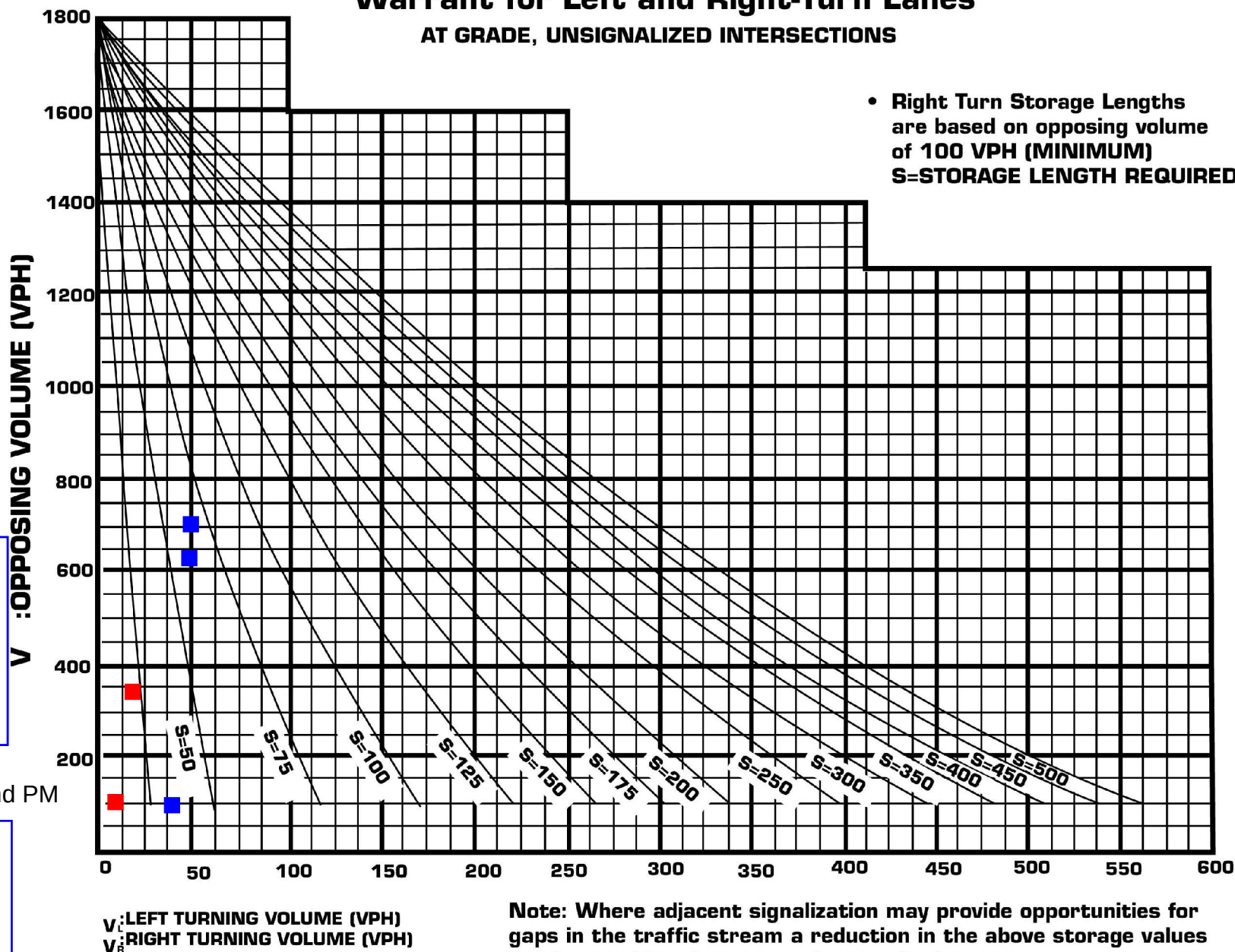
2027 Background PM

VNBR=38  
V<sub>o</sub>=100  
S=50'

VSBL=51  
V<sub>o</sub>=614  
S=75'

## Warrant for Left and Right-Turn Lanes AT GRADE, UNSIGNALIZED INTERSECTIONS

- Right Turn Storage Lengths are based on opposing volume of 100 VPH (MINIMUM)  
S=STORAGE LENGTH REQUIRED



2027 Build AM

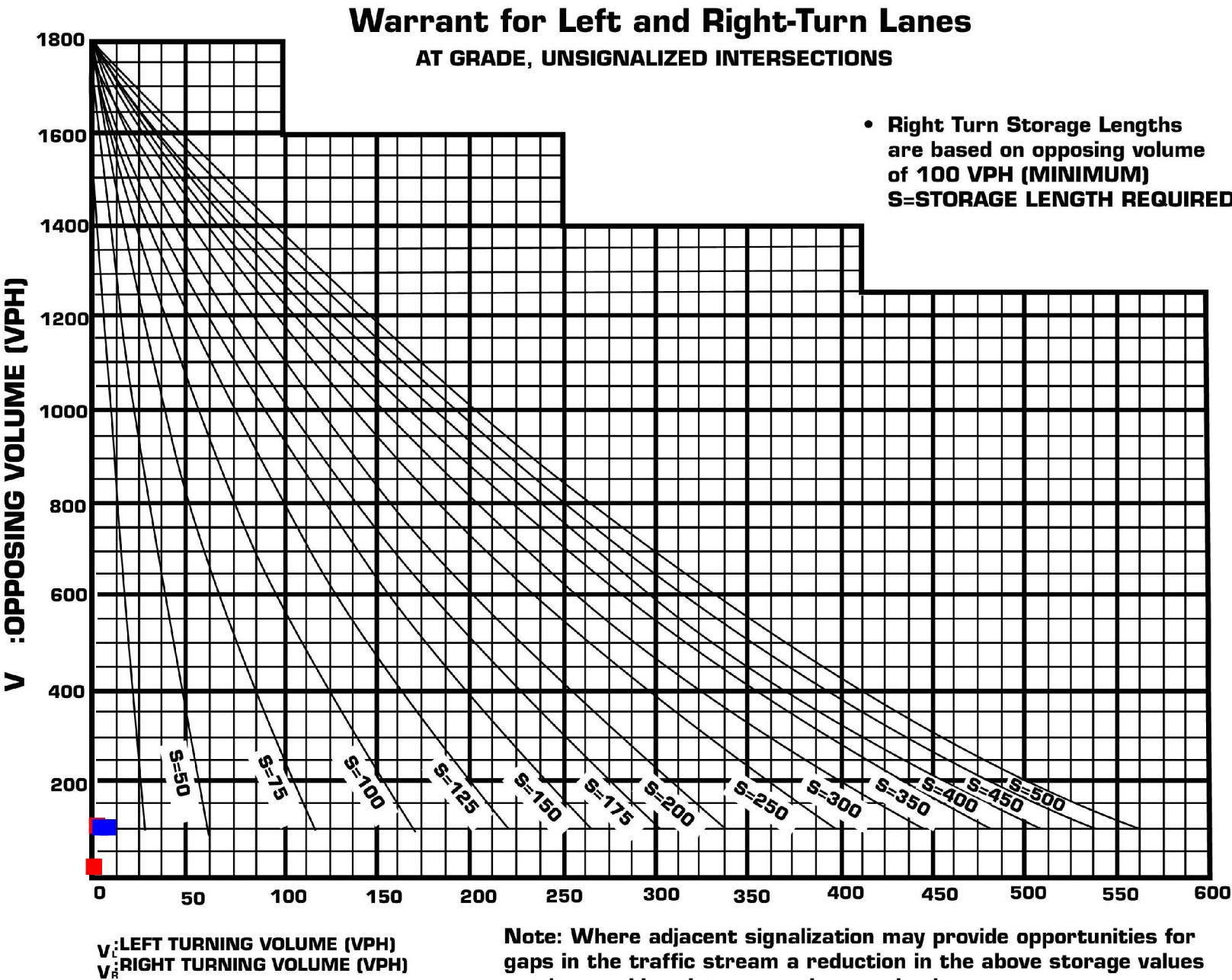
VEBR=4  
Vo=100  
S=0'

VWBL=0  
Vo=30  
S=0'

2027 Build PM

VEBR=8  
Vo=100  
S=0'

VWBL=0  
Vo=97  
S=0'



2027 Build AM

VNBR=57  
Vo=100  
S=50'

VSBR=20  
Vo=100  
S=0'

VNBL=8  
Vo=274  
S=0'

VSBL=172  
Vo=185  
S=125'

Page 80

2027 Build PM

VNBR=76  
Vo=100  
S=75'

VSBR=1  
Vo=100  
S=0'

VNBL=4  
Vo=230  
S=0'

VSBL=181  
Vo=202  
S=125'

## Warrant for Left and Right-Turn Lanes AT GRADE, UNSIGNALIZED INTERSECTIONS

2027 Background AM

VNBR=57  
Vo=100  
S=50'

VSBR=20  
Vo=100  
S=0'

VNBL=8  
Vo=268  
S=0'

VSBL=166  
Vo=185  
S=125'

2027 Background PM

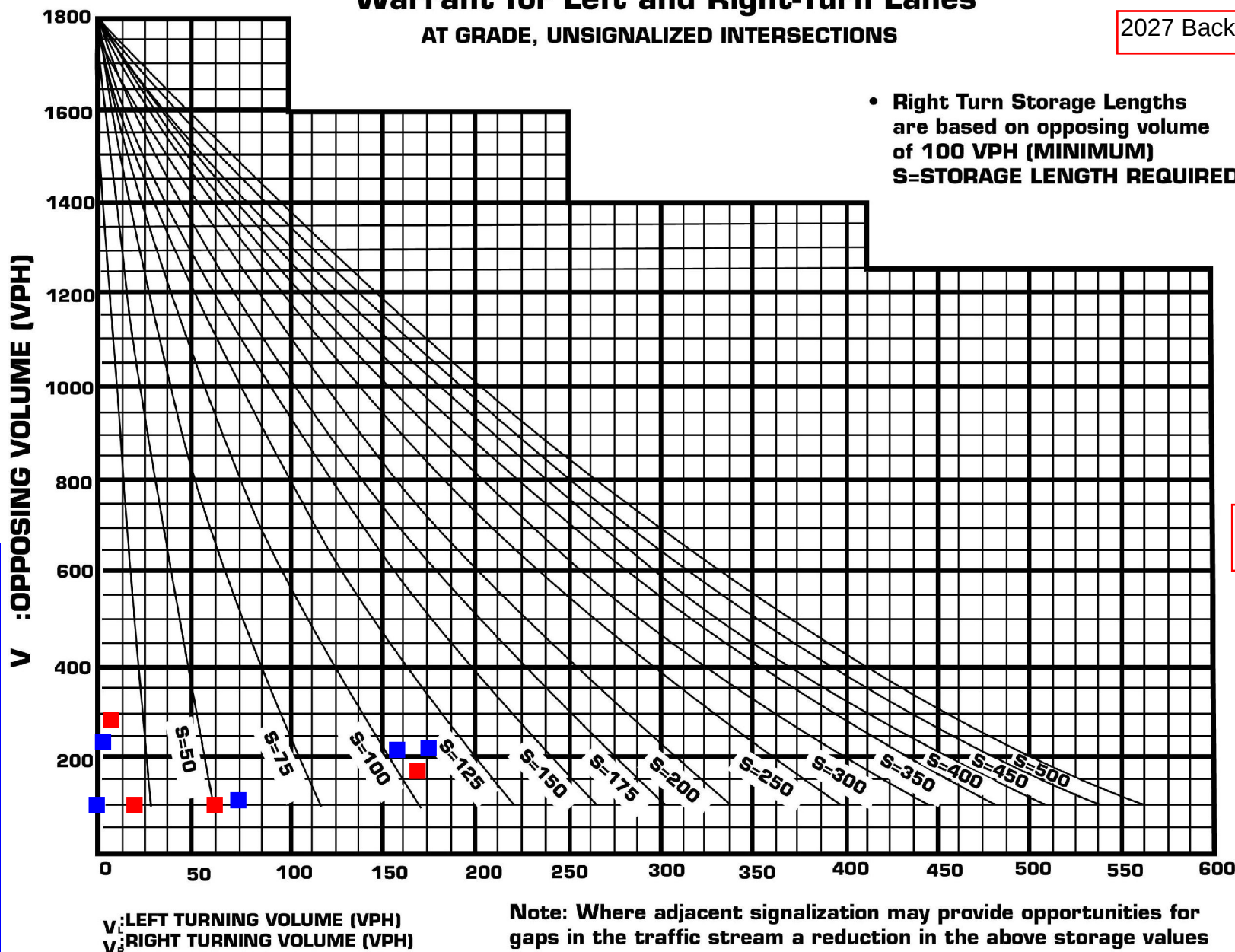
VNBR=76  
Vo=100  
S=75'

VSBR=1  
Vo=100  
S=0'

VNBL=4  
Vo=209  
S=0'

VSBL=160  
Vo=202  
S=125'

- Right Turn Storage Lengths are based on opposing volume of 100 VPH (MINIMUM)  
S=STORAGE LENGTH REQUIRED





2027 Build AM

VEBR=383  
V<sub>o</sub>=100  
S=250'

VWBL=184  
V<sub>o</sub>=678  
S=200'

2027 Background AM

VEBR=383  
V<sub>o</sub>=100  
S=250'

VWBL=182  
V<sub>o</sub>=678  
S=200'

2027 Build PM

VEBR=410  
V<sub>o</sub>=100  
S=300'

VWBL=103  
V<sub>o</sub>=977  
S=175'

2027 Background PM

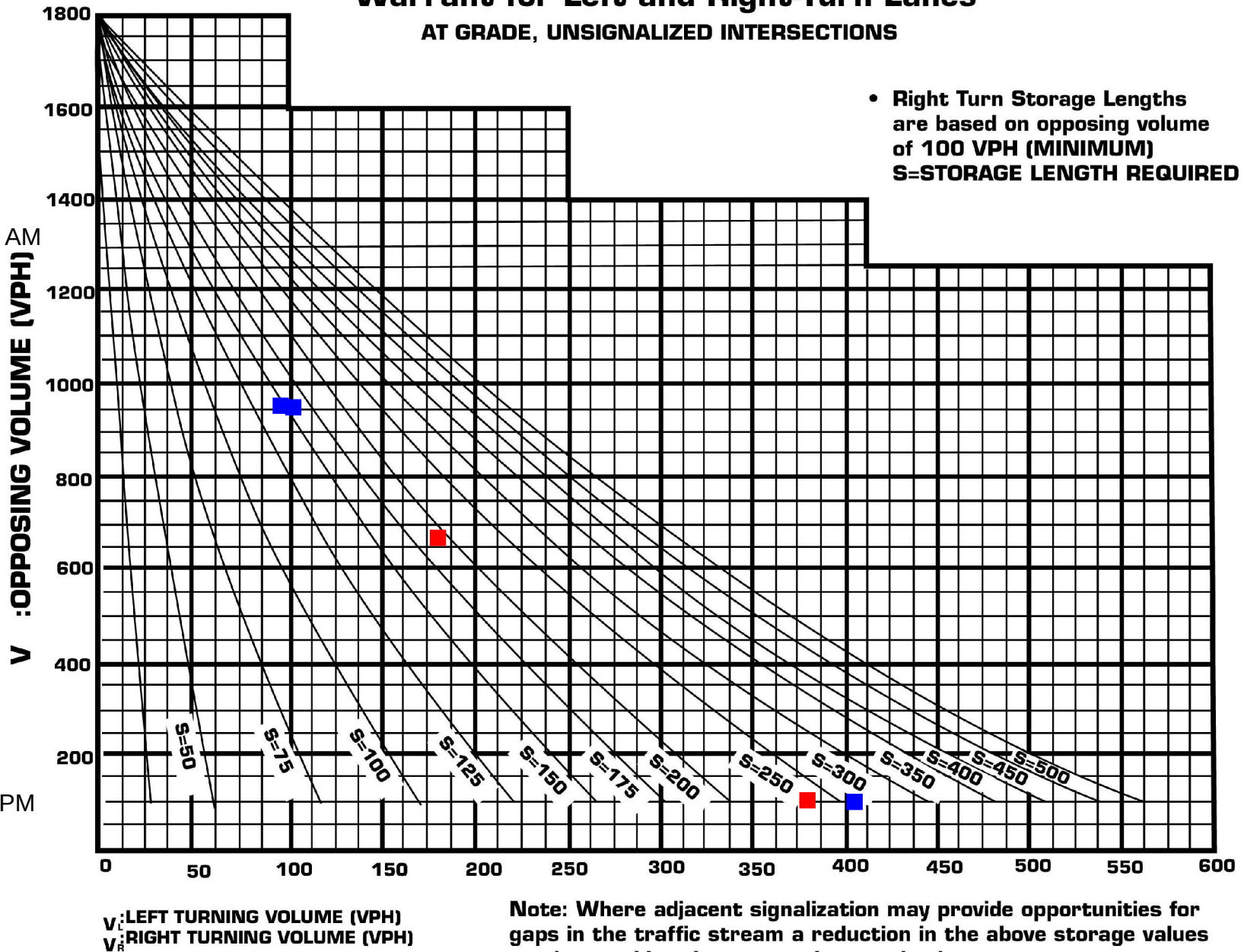
VEBR=410  
V<sub>o</sub>=100  
S=300'

VWBL=96  
V<sub>o</sub>=977  
S=175'

## Warrant for Left and Right-Turn Lanes

### AT GRADE, UNSIGNALIZED INTERSECTIONS

- Right Turn Storage Lengths are based on opposing volume of 100 VPH (MINIMUM)  
S=STORAGE LENGTH REQUIRED



2027 Build AM

VNBR=17  
Vo=100  
S=0

VSBR=4  
Vo=100  
S=0

VNBL=8  
Vo=613  
S=0

VSBL=5  
Vo=369  
S=0

Page 80

2027 Build PM

VNBR=58  
Vo=100  
S=50'

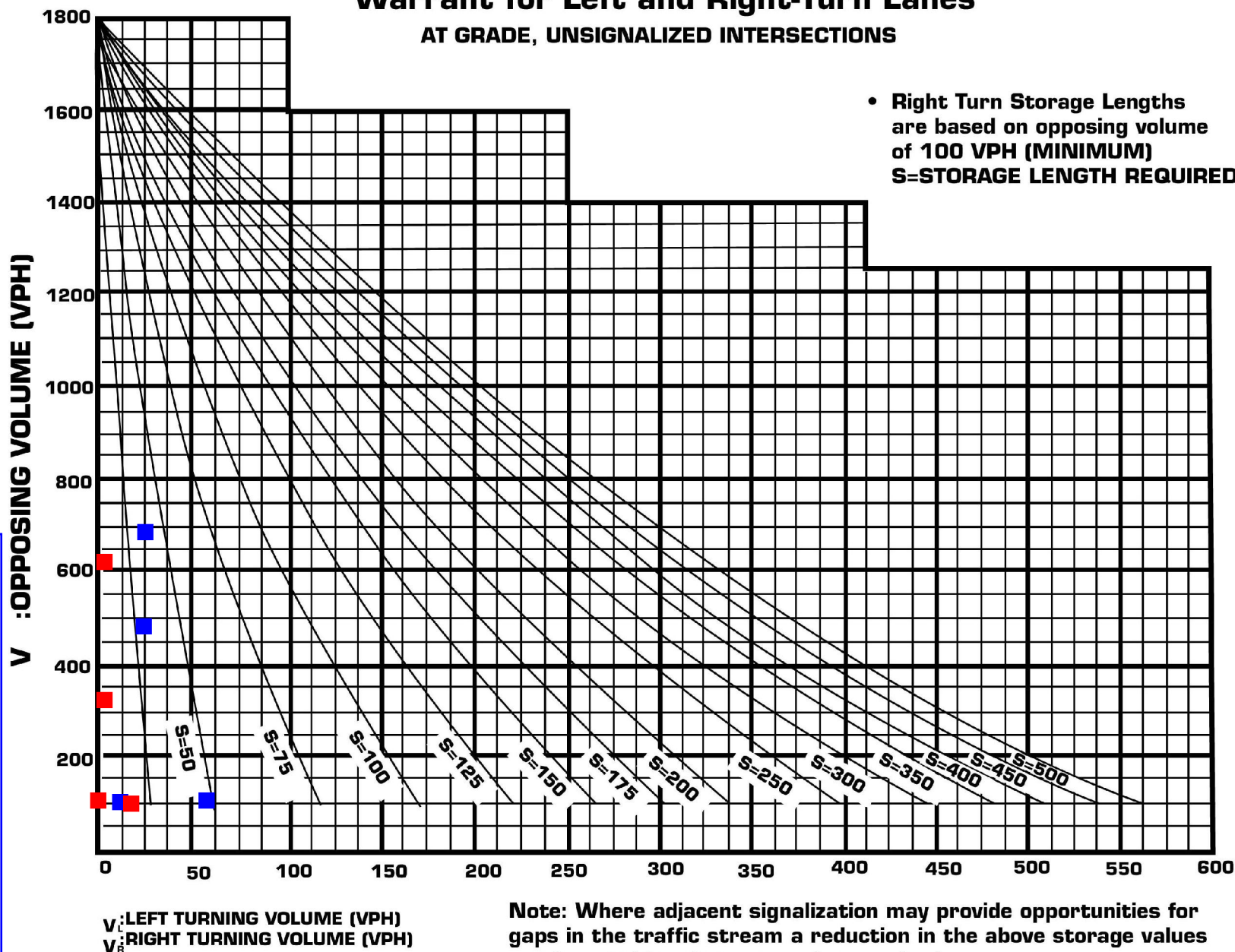
VSBR=14  
Vo=100  
S=0

VNBL=27  
Vo=485  
S=50'

VSBL=16  
Vo=692  
S=50'

## Warrant for Left and Right-Turn Lanes AT GRADE, UNSIGNALIZED INTERSECTIONS

- Right Turn Storage Lengths are based on opposing volume of 100 VPH (MINIMUM)  
S=STORAGE LENGTH REQUIRED



2027 Build AM

VSBR=2  
Vo=100  
S=0

VNBL=3  
Vo=567  
S=0

Page 80

2027 Build PM

VSBR=7  
Vo=100  
S=0

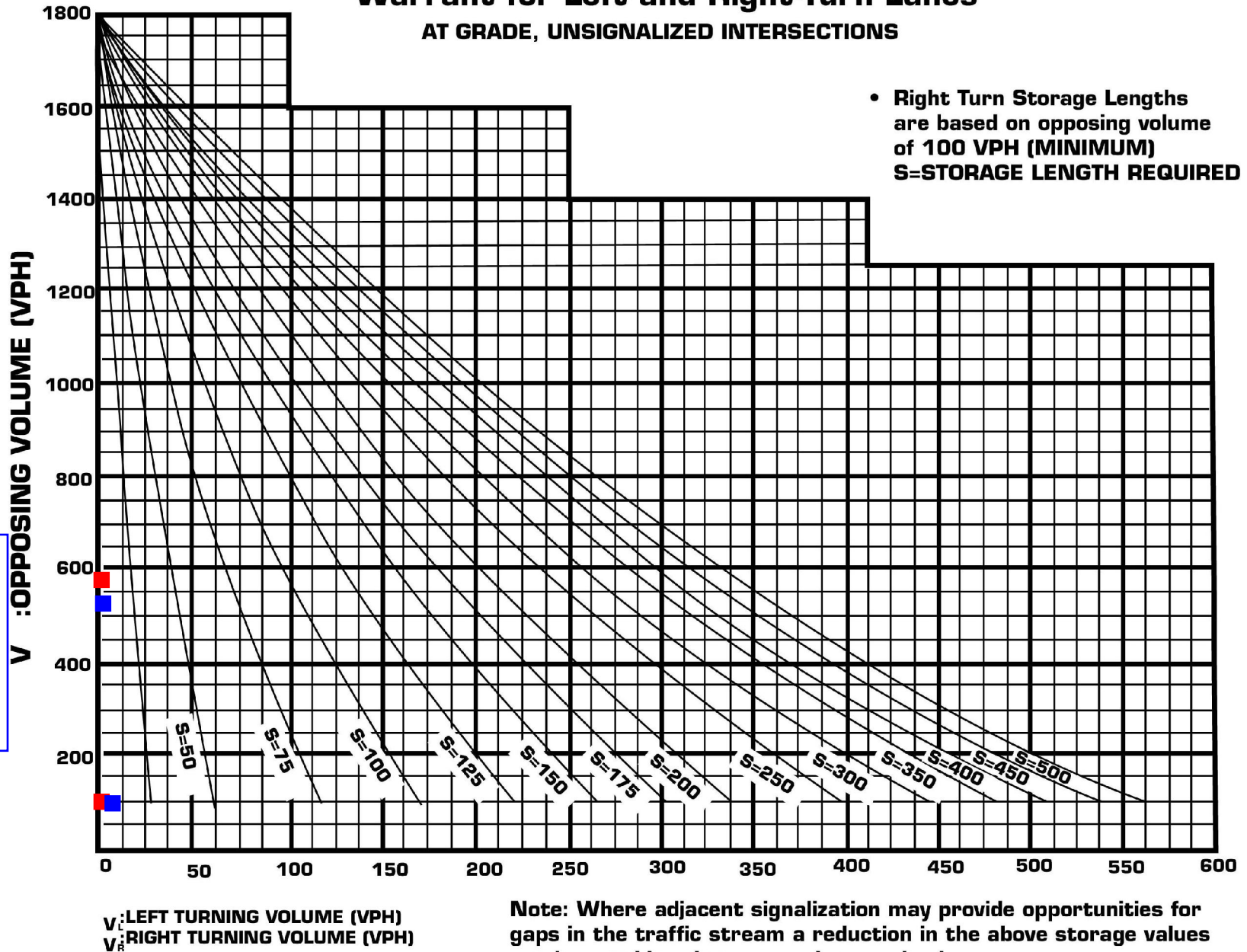
VNBL=7  
Vo=514  
S=0

July 2003

## Warrant for Left and Right-Turn Lanes

AT GRADE, UNSIGNALIZED INTERSECTIONS

- Right Turn Storage Lengths are based on opposing volume of 100 VPH (MINIMUM)  
S=STORAGE LENGTH REQUIRED



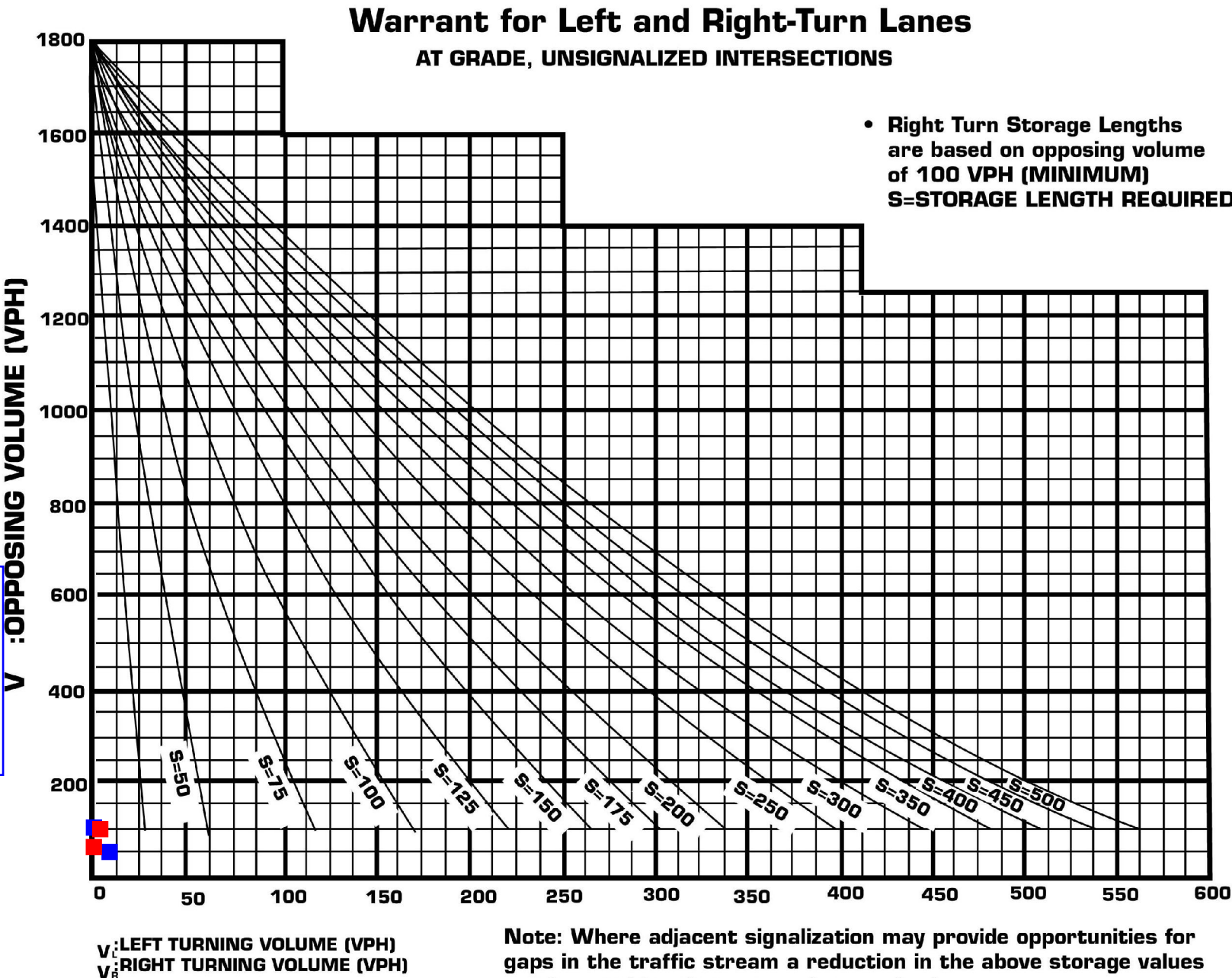


2027 Build AM

VWBR=0  
Vo=100  
S=0  
  
VEBL=2  
Vo=71  
S=0

2027 Build PM

VWBR=0  
Vo=100  
S=0  
  
VEBL=8  
Vo=47  
S=0





# Signal Warrants



Project Name  
TRAFFIC SIGNAL VOLUME WARRANT ANALYSIS  
Based on 2009 MUTCD

INTERSECTION NAME: Stallings Road and Stevens Mill Road

DATE: 09/18/20

INTERSECTION CONDITION: 2027 Background Total

MAJOR STREET: Stallings Road  
MINOR STREET: Stevens Mill Road

# OF APPROACH LANES: 1  
# OF APPROACH LANES: 1

ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000 (Y OR N): N  
85TH PERCENTILE SPEED GREATER THAN 40 MPH ON MAJOR STREET (Y OR N): Y

USE 56% REDUCTION (Y OR N): N

|                      |  |  |  | MAJOR ST<br>BOTH<br>APPROACHES  | MINOR ST<br>HIGHEST<br>APPROACH | WARRANT 1, Condition A |                                 |          | WARRANT 1, Condition B |                                                             |          | WARRANT 1, Combination Warrant |                 |          |                 |                               |          | WARRANT 2                | WARRANT 3 |
|----------------------|--|--|--|---------------------------------|---------------------------------|------------------------|---------------------------------|----------|------------------------|-------------------------------------------------------------|----------|--------------------------------|-----------------|----------|-----------------|-------------------------------|----------|--------------------------|-----------|
|                      |  |  |  |                                 |                                 | MAJOR<br>STREET        | MINOR<br>STREET                 | BOTH MET | MAJOR<br>STREET        | MINOR<br>STREET                                             | BOTH MET | CONDITION A                    |                 |          | CONDITION B     |                               |          |                          |           |
|                      |  |  |  |                                 |                                 |                        |                                 |          |                        |                                                             |          | MAJOR<br>STREET                | MINOR<br>STREET | BOTH MET | MAJOR<br>STREET | MINOR<br>STREET               | BOTH MET |                          |           |
| THRESHOLD VALUES     |  |  |  |                                 | 350                             | 105                    |                                 | 525      | 53                     |                                                             | 400      | 120                            |                 | 600      | 60              |                               |          |                          |           |
| 12:00 AM TO 01:00 AM |  |  |  |                                 |                                 |                        |                                 |          |                        |                                                             |          |                                |                 |          |                 |                               |          |                          |           |
| 01:00 AM TO 02:00 AM |  |  |  |                                 |                                 |                        |                                 |          |                        |                                                             |          |                                |                 |          |                 |                               |          |                          |           |
| 02:00 AM TO 03:00 AM |  |  |  |                                 |                                 |                        |                                 |          |                        |                                                             |          |                                |                 |          |                 |                               |          |                          |           |
| 03:00 AM TO 04:00 AM |  |  |  |                                 |                                 |                        |                                 |          |                        |                                                             |          |                                |                 |          |                 |                               |          |                          |           |
| 04:00 AM TO 05:00 AM |  |  |  |                                 |                                 |                        |                                 |          |                        |                                                             |          |                                |                 |          |                 |                               |          |                          |           |
| 05:00 AM TO 06:00 AM |  |  |  |                                 |                                 |                        |                                 |          |                        |                                                             |          |                                |                 |          |                 |                               |          |                          |           |
| 06:00 AM TO 07:00 AM |  |  |  |                                 |                                 |                        |                                 |          |                        |                                                             |          |                                |                 |          |                 |                               |          |                          |           |
| 07:00 AM TO 08:00 AM |  |  |  | 865                             | 669                             | Y                      | Y                               | Y        | Y                      | Y                                                           | Y        | Y                              | Y               | Y        | Y               | Y                             | Y        |                          |           |
| 08:00 AM TO 09:00 AM |  |  |  |                                 |                                 |                        |                                 |          |                        |                                                             |          |                                |                 |          |                 |                               |          |                          |           |
| 09:00 AM TO 10:00 AM |  |  |  |                                 |                                 |                        |                                 |          |                        |                                                             |          |                                |                 |          |                 |                               |          |                          |           |
| 10:00 AM TO 11:00 AM |  |  |  |                                 |                                 |                        |                                 |          |                        |                                                             |          |                                |                 |          |                 |                               |          |                          |           |
| 11:00 AM TO 12:00 PM |  |  |  |                                 |                                 |                        |                                 |          |                        |                                                             |          |                                |                 |          |                 |                               |          |                          |           |
| 12:00 PM TO 01:00 PM |  |  |  |                                 |                                 |                        |                                 |          |                        |                                                             |          |                                |                 |          |                 |                               |          |                          |           |
| 01:00 PM TO 02:00 PM |  |  |  |                                 |                                 |                        |                                 |          |                        |                                                             |          |                                |                 |          |                 |                               |          |                          |           |
| 02:00 PM TO 03:00 PM |  |  |  |                                 |                                 |                        |                                 |          |                        |                                                             |          |                                |                 |          |                 |                               |          |                          |           |
| 03:00 PM TO 04:00 PM |  |  |  |                                 |                                 |                        |                                 |          |                        |                                                             |          |                                |                 |          |                 |                               |          |                          |           |
| 04:00 PM TO 05:00 PM |  |  |  |                                 |                                 |                        |                                 |          |                        |                                                             |          |                                |                 |          |                 |                               |          |                          |           |
| 05:00 PM TO 06:00 PM |  |  |  | 1,005                           | 305                             | Y                      | Y                               | Y        | Y                      | Y                                                           | Y        | Y                              | Y               | Y        | Y               | Y                             | Y        |                          |           |
| 06:00 PM TO 07:00 PM |  |  |  |                                 |                                 |                        |                                 |          |                        |                                                             |          |                                |                 |          |                 |                               |          |                          |           |
| 07:00 PM TO 08:00 PM |  |  |  |                                 |                                 |                        |                                 |          |                        |                                                             |          |                                |                 |          |                 |                               |          |                          |           |
| 08:00 PM TO 09:00 PM |  |  |  |                                 |                                 |                        |                                 |          |                        |                                                             |          |                                |                 |          |                 |                               |          |                          |           |
| 09:00 PM TO 10:00 PM |  |  |  |                                 |                                 |                        |                                 |          |                        |                                                             |          |                                |                 |          |                 |                               |          |                          |           |
| 10:00 PM TO 11:00 PM |  |  |  |                                 |                                 |                        |                                 |          |                        |                                                             |          |                                |                 |          |                 |                               |          |                          |           |
| 11:00 PM TO 12:00 AM |  |  |  |                                 |                                 |                        |                                 |          |                        |                                                             |          |                                |                 |          |                 |                               |          |                          |           |
|                      |  |  |  | 1,870                           | 974                             | 2                      |                                 |          | 2                      |                                                             |          | 22                             |                 |          |                 |                               |          | 2                        | 2         |
|                      |  |  |  | 8 HOURS NEEDED<br>NOT SATISFIED |                                 |                        | 8 HOURS NEEDED<br>NOT SATISFIED |          |                        | 8 HOURS OF BOTH COND. A AND COND. B NEEDED<br>NOT SATISFIED |          |                                |                 |          |                 | 4 HRS NEEDED<br>NOT SATISFIED |          | 1 HR NEEDED<br>SATISFIED |           |

WARRANT 1 -- Eight-Hour Vehicular Volume Warrant  
Condition A : Minimum Vehicular Volume  
Condition B : Interruption of Continuous Traffic  
Combination : Combination of Condition A and Condition B  
WARRANT 2 -- Four-Hour Vehicular Volume Warrant  
WARRANT 3 -- Peak Hour Warrant

Project Name  
TRAFFIC SIGNAL VOLUME WARRANT ANALYSIS  
Based on 2009 MUTCD

INTERSECTION NAME: Stallings Road and Stevens Mill Road

DATE: 09/18/20

INTERSECTION CONDITION: 2027 Buildout Total

MAJOR STREET: Stallings Road  
MINOR STREET: Stevens Mill Road

# OF APPROACH LANES: 1  
# OF APPROACH LANES: 1

ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000 (Y OR N): N  
85TH PERCENTILE SPEED GREATER THAN 40 MPH ON MAJOR STREET (Y OR N): Y

USE 56% REDUCTION (Y OR N): N

|                    |    |          | MAJOR ST<br>BOTH<br>APPROACHES  | MINOR ST<br>HIGHEST<br>APPROACH | WARRANT 1, Condition A |                                 |          | WARRANT 1, Condition B |                                                             |          | WARRANT 1, Combination Warrant |                 |          |                 |                               |          | WARRANT 2                | WARRANT 3 |
|--------------------|----|----------|---------------------------------|---------------------------------|------------------------|---------------------------------|----------|------------------------|-------------------------------------------------------------|----------|--------------------------------|-----------------|----------|-----------------|-------------------------------|----------|--------------------------|-----------|
|                    |    |          |                                 |                                 | MAJOR<br>STREET        | MINOR<br>STREET                 | BOTH MET | MAJOR<br>STREET        | MINOR<br>STREET                                             | BOTH MET | CONDITION A                    |                 |          | CONDITION B     |                               |          |                          |           |
|                    |    |          |                                 |                                 |                        |                                 |          |                        |                                                             |          | MAJOR<br>STREET                | MINOR<br>STREET | BOTH MET | MAJOR<br>STREET | MINOR<br>STREET               | BOTH MET |                          |           |
| THRESHOLD VALUES → |    |          |                                 |                                 | 350                    | 105                             |          | 525                    | 53                                                          |          | 400                            | 120             |          | 600             | 60                            |          |                          |           |
| 12:00 AM           | TO | 01:00 AM |                                 |                                 |                        |                                 |          |                        |                                                             |          |                                |                 |          |                 |                               |          |                          |           |
| 01:00 AM           | TO | 02:00 AM |                                 |                                 |                        |                                 |          |                        |                                                             |          |                                |                 |          |                 |                               |          |                          |           |
| 02:00 AM           | TO | 03:00 AM |                                 |                                 |                        |                                 |          |                        |                                                             |          |                                |                 |          |                 |                               |          |                          |           |
| 03:00 AM           | TO | 04:00 AM |                                 |                                 |                        |                                 |          |                        |                                                             |          |                                |                 |          |                 |                               |          |                          |           |
| 04:00 AM           | TO | 05:00 AM |                                 |                                 |                        |                                 |          |                        |                                                             |          |                                |                 |          |                 |                               |          |                          |           |
| 05:00 AM           | TO | 06:00 AM |                                 |                                 |                        |                                 |          |                        |                                                             |          |                                |                 |          |                 |                               |          |                          |           |
| 06:00 AM           | TO | 07:00 AM |                                 |                                 |                        |                                 |          |                        |                                                             |          |                                |                 |          |                 |                               |          |                          |           |
| 07:00 AM           | TO | 08:00 AM | 900                             | 669                             | Y                      | Y                               | Y        | Y                      | Y                                                           | Y        | Y                              | Y               | Y        | Y               | Y                             | Y        | Y                        |           |
| 08:00 AM           | TO | 09:00 AM |                                 |                                 |                        |                                 |          |                        |                                                             |          |                                |                 |          |                 |                               |          |                          |           |
| 09:00 AM           | TO | 10:00 AM |                                 |                                 |                        |                                 |          |                        |                                                             |          |                                |                 |          |                 |                               |          |                          |           |
| 10:00 AM           | TO | 11:00 AM |                                 |                                 |                        |                                 |          |                        |                                                             |          |                                |                 |          |                 |                               |          |                          |           |
| 11:00 AM           | TO | 12:00 PM |                                 |                                 |                        |                                 |          |                        |                                                             |          |                                |                 |          |                 |                               |          |                          |           |
| 12:00 PM           | TO | 01:00 PM |                                 |                                 |                        |                                 |          |                        |                                                             |          |                                |                 |          |                 |                               |          |                          |           |
| 01:00 PM           | TO | 02:00 PM |                                 |                                 |                        |                                 |          |                        |                                                             |          |                                |                 |          |                 |                               |          |                          |           |
| 02:00 PM           | TO | 03:00 PM |                                 |                                 |                        |                                 |          |                        |                                                             |          |                                |                 |          |                 |                               |          |                          |           |
| 03:00 PM           | TO | 04:00 PM |                                 |                                 |                        |                                 |          |                        |                                                             |          |                                |                 |          |                 |                               |          |                          |           |
| 04:00 PM           | TO | 05:00 PM |                                 |                                 |                        |                                 |          |                        |                                                             |          |                                |                 |          |                 |                               |          |                          |           |
| 05:00 PM           | TO | 06:00 PM | 1,038                           | 305                             | Y                      | Y                               | Y        | Y                      | Y                                                           | Y        | Y                              | Y               | Y        | Y               | Y                             | Y        | Y                        |           |
| 06:00 PM           | TO | 07:00 PM |                                 |                                 |                        |                                 |          |                        |                                                             |          |                                |                 |          |                 |                               |          |                          |           |
| 07:00 PM           | TO | 08:00 PM |                                 |                                 |                        |                                 |          |                        |                                                             |          |                                |                 |          |                 |                               |          |                          |           |
| 08:00 PM           | TO | 09:00 PM |                                 |                                 |                        |                                 |          |                        |                                                             |          |                                |                 |          |                 |                               |          |                          |           |
| 09:00 PM           | TO | 10:00 PM |                                 |                                 |                        |                                 |          |                        |                                                             |          |                                |                 |          |                 |                               |          |                          |           |
| 10:00 PM           | TO | 11:00 PM |                                 |                                 |                        |                                 |          |                        |                                                             |          |                                |                 |          |                 |                               |          |                          |           |
| 11:00 PM           | TO | 12:00 AM |                                 |                                 |                        |                                 |          |                        |                                                             |          |                                |                 |          |                 |                               |          |                          |           |
|                    |    |          | 1,938                           | 974                             | 2                      |                                 |          | 2                      |                                                             |          | 22                             |                 |          |                 |                               |          | 2                        | 2         |
|                    |    |          | 8 HOURS NEEDED<br>NOT SATISFIED |                                 |                        | 8 HOURS NEEDED<br>NOT SATISFIED |          |                        | 8 HOURS OF BOTH COND. A AND COND. B NEEDED<br>NOT SATISFIED |          |                                |                 |          |                 | 4 HRS NEEDED<br>NOT SATISFIED |          | 1 HR NEEDED<br>SATISFIED |           |

WARRANT 1 -- Eight-Hour Vehicular Volume Warrant  
Condition A : Minimum Vehicular Volume  
Condition B : Interruption of Continuous Traffic  
Combination : Combination of Condition A and Condition B  
WARRANT 2 -- Four-Hour Vehicular Volume Warrant  
WARRANT 3 -- Peak Hour Warrant

# Pedestrian LOS Calculations





Stallings Road and Stevens Mills Road

| AM PEAK HOUR                                    |                      |                      |                      |                      |
|-------------------------------------------------|----------------------|----------------------|----------------------|----------------------|
|                                                 | Crossing NB Approach | Crossing SB Approach | Crossing EB Approach | Crossing WB Approach |
|                                                 | Minor                | Minor                | Major                | Major                |
| Ped Phase                                       | N                    | N                    | N                    | N                    |
| Speed Limit (85 <sup>th</sup> Percentile Speed) | 35                   | 40                   | 40                   | 40                   |
| Cycle Length (sec)                              | C                    | 70                   |                      |                      |
| Duration of phase for through movement          | D <sub>THRU</sub>    | 42                   | 38                   | 38                   |
| Yellow time for through movement                | Y <sub>THRU</sub>    | 5.2                  | 5.3                  | 5.3                  |
| Red time for through movement                   | R <sub>THRU</sub>    | 2.0                  | 2.0                  | 2.0                  |
| Walk Time                                       | Walk <sub>min</sub>  | 0                    | 0                    | 0                    |
| Crosswalk Length                                | L <sub>c</sub>       | 42                   | 38                   | 38                   |
| Number of lanes crossed                         | N <sub>c</sub>       | 3                    | 3                    | 3                    |
| Number of right-turn channelizing islands       | N <sub>ch</sub>      | 0                    | 0                    | 0                    |
| Walking Speed (ft/sec)                          | S <sub>w</sub>       | 3.5                  |                      |                      |

|                                                                                            |                 |   |   |   |   |
|--------------------------------------------------------------------------------------------|-----------------|---|---|---|---|
| flow rate of peds arriving at the corner after crossing minor street (ped/hr)              | V <sub>ap</sub> | 2 | 0 | 1 | 0 |
| flow rate of peds arriving at the corner to cross minor street (ped/hr)                    | V <sub>ap</sub> | 1 | 0 | 2 | 0 |
| flow rate of peds arriving at the corner after crossing major street (ped/hr)              | V <sub>ap</sub> | 3 | 2 | 1 | 0 |
| flow rate of peds arriving at the corner to cross major street (ped/hr)                    | V <sub>ap</sub> | 0 | 1 | 2 | 3 |
| flow rate of peds traveling through the corner from Sidewalk A to Sidewalk B or vice versa | V <sub>ap</sub> | 6 | 3 | 6 | 3 |

|                                                                                                   |                    |       |        |       |        |
|---------------------------------------------------------------------------------------------------|--------------------|-------|--------|-------|--------|
| Count of vehicles traveling on major/minor street during 15 min period - Existing                 | P <sub>15min</sub> | 51.83 | 73.17  | 27.25 | 84.92  |
| Count of vehicles traveling on major/minor street during 15 min period - 2022 Background          | P <sub>15min</sub> | 78.50 | 97.92  | 46.92 | 116.67 |
| Count of vehicles traveling on major/minor street during 15 min period - 2022 Build               | P <sub>15min</sub> | 81.92 | 99.33  | 48.92 | 116.67 |
| Count of vehicles traveling on major/minor street during 15 min period - 2027 Build               | P <sub>15min</sub> | 94.33 | 116.92 | 55.50 | 137.08 |
| Count of vehicles traveling on major/minor street during 15 min period - 2021 Build Phase 1 Alt 3 | P <sub>15min</sub> | 0.00  | 0.00   | 0.00  | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2021 Build Phase 1 Alt 4 | P <sub>15min</sub> | 0.00  | 0.00   | 0.00  | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2024 Background          | P <sub>15min</sub> | 0.00  | 0.00   | 0.00  | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2024 Background U-4714   | P <sub>15min</sub> | 0.00  | 0.00   | 0.00  | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2024 Build Phase 2 Alt 1 | P <sub>15min</sub> | 0.00  | 0.00   | 0.00  | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2024 Build Phase 2 Alt 2 | P <sub>15min</sub> | 0.00  | 0.00   | 0.00  | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2024 Build Phase 2 Alt 3 | P <sub>15min</sub> | 0.00  | 0.00   | 0.00  | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2024 Build Phase 2 Alt 4 | P <sub>15min</sub> | 0.00  | 0.00   | 0.00  | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2029 Background          | P <sub>15min</sub> | 0.00  | 0.00   | 0.00  | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2029 Background U-4714   | P <sub>15min</sub> | 0.00  | 0.00   | 0.00  | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2034 Background          | P <sub>15min</sub> | 0.00  | 0.00   | 0.00  | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2034 Background U-4714   | P <sub>15min</sub> | 0.00  | 0.00   | 0.00  | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2029 Build Phase 3 Alt 1 | P <sub>15min</sub> | 0.00  | 0.00   | 0.00  | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2029 Build Phase 3 Alt 2 | P <sub>15min</sub> | 0.00  | 0.00   | 0.00  | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2029 Build Phase 3 Alt 3 | P <sub>15min</sub> | 0.00  | 0.00   | 0.00  | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2029 Build Phase 3 Alt 4 | P <sub>15min</sub> | 0.00  | 0.00   | 0.00  | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2034 Build Alt 1         | P <sub>15min</sub> | 0.00  | 0.00   | 0.00  | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2034 Build Alt 2         | P <sub>15min</sub> | 0.00  | 0.00   | 0.00  | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2034 Build Alt 3         | P <sub>15min</sub> | 0.00  | 0.00   | 0.00  | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2034 Build Alt 4         | P <sub>15min</sub> | 0.00  | 0.00   | 0.00  | 0.00   |

|                                          |                        |    |    |    |    |
|------------------------------------------|------------------------|----|----|----|----|
| Effective walk time for through movement | Q <sub>walk, min</sub> | 35 | 35 | 26 | 26 |
|------------------------------------------|------------------------|----|----|----|----|

| Adjustment Factors         |                |       |       |       |       |
|----------------------------|----------------|-------|-------|-------|-------|
| Pedestrian delay (sec/ped) | d <sub>p</sub> | 10.67 | 10.67 | 16.01 | 16.01 |

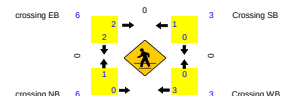
|                                 |                |        |        |        |        |
|---------------------------------|----------------|--------|--------|--------|--------|
| Cross section adjustment factor | F <sub>p</sub> | 1.1978 | 1.1978 | 1.1978 | 1.1978 |
|---------------------------------|----------------|--------|--------|--------|--------|

|                                                              |                |        |        |        |        |
|--------------------------------------------------------------|----------------|--------|--------|--------|--------|
| Motorized vehicle volume adjustment factor - Existing        | F <sub>v</sub> | 0.2575 | 0.0327 | 0.0313 | 0.3727 |
| Motorized vehicle volume adjustment factor - 2022 Background | F <sub>v</sub> | 0.3656 | 0.0555 | 0.0811 | 0.4837 |
| Motorized vehicle volume adjustment factor - 2022 Build      | F <sub>v</sub> | 0.3656 | 0.0555 | 0.1067 | 0.4837 |
| Motorized vehicle volume adjustment factor - 2027 Build      | F <sub>v</sub> | 0.4282 | 0.064  | 0.1138 | 0.5733 |

|                                                                       |                |      |      |      |      |
|-----------------------------------------------------------------------|----------------|------|------|------|------|
| Motorized vehicle volume adjustment factor - 2021 Build Phase 1 Alt 3 | F <sub>v</sub> | 0    | 0    | 0    | 0    |
| Motorized vehicle volume adjustment factor - 2021 Build Phase 1 Alt 4 | F <sub>v</sub> | 0    | 0    | 0    | 0    |
| Motorized vehicle volume adjustment factor - 2024 Background          | F <sub>v</sub> | 0    | 0    | 0    | 0    |
| Motorized vehicle volume adjustment factor - 2024 Background U-4714   | F <sub>v</sub> | 0    | 0    | 0    | 0    |
| Motorized vehicle volume adjustment factor - 2024 Build Phase 2 Alt 1 | F <sub>v</sub> | 0    | 0    | 0    | 0    |
| Motorized vehicle volume adjustment factor - 2024 Build Phase 2 Alt 2 | F <sub>v</sub> | 0    | 0    | 0    | 0    |
| Motorized vehicle volume adjustment factor - 2024 Build Phase 2 Alt 3 | F <sub>v</sub> | 0    | 0    | 0    | 0    |
| Motorized vehicle volume adjustment factor - 2024 Build Phase 2 Alt 4 | F <sub>v</sub> | 0    | 0    | 0    | 0    |
| Motorized vehicle volume adjustment factor - 2029 Background          | F <sub>v</sub> | 0    | 0    | 0    | 0    |
| Motorized vehicle volume adjustment factor - 2029 Background U-4714   | F <sub>v</sub> | 0    | 0    | 0    | 0    |
| Motorized vehicle volume adjustment factor - 2034 Background          | F <sub>v</sub> | 0    | 0    | 0    | 0    |
| Motorized vehicle volume adjustment factor - 2034 Background U-4714   | F <sub>v</sub> | 0    | 0    | 0    | 0    |
| Motorized vehicle volume adjustment factor - 2029 Build Phase 3 Alt 1 | F <sub>v</sub> | 0    | 0    | 0    | 0    |
| Motorized vehicle volume adjustment factor - 2029 Build Phase 3 Alt 2 | F <sub>v</sub> | 0    | 0    | 0    | 0    |
| Motorized vehicle volume adjustment factor - 2029 Build Phase 3 Alt 3 | F <sub>v</sub> | 0    | 0    | 0    | 0    |
| Motorized vehicle volume adjustment factor - 2029 Build Phase 3 Alt 4 | F <sub>v</sub> | 0    | 0    | 0    | 0    |
| Motorized vehicle volume adjustment factor - 2034 Build Alt 1         | F <sub>v</sub> | 0    | 0    | 0    | 0    |
| Motorized vehicle volume adjustment factor - 2034 Build Alt 2         | F <sub>v</sub> | 0    | 0    | 0    | 0    |
| Motorized vehicle volume adjustment factor - 2034 Build Alt 3         | F <sub>v</sub> | 0    | 0    | 0    | 0    |
| Motorized vehicle volume adjustment factor - 2034 Build Alt 4         | F <sub>v</sub> | 0    | 0    | 0    | 0    |
| Motorized vehicle speed adjustment factor - Existing                  | F <sub>s</sub> | 0.30 | 0.43 | 0.16 | 0.5  |
| Motorized vehicle speed adjustment factor - 2021 Background           | F <sub>s</sub> | 0.46 | 0.57 | 0.27 | 0.68 |
| Motorized vehicle speed adjustment factor - 2021 Build Phase 1 Alt 1  | F <sub>s</sub> | 0.48 | 0.58 | 0.29 | 0.68 |
| Motorized vehicle speed adjustment factor - 2021 Build Phase 1 Alt 2  | F <sub>s</sub> | 0.55 | 0.68 | 0.32 | 0.8  |
| Motorized vehicle speed adjustment factor - 2021 Build Phase 1 Alt 3  | F <sub>s</sub> | 0.00 | 0    | 0    | 0    |
| Motorized vehicle speed adjustment factor - 2021 Build Phase 1 Alt 4  | F <sub>s</sub> | 0.00 | 0    | 0    | 0    |
| Motorized vehicle speed adjustment factor - 2024 Background           | F <sub>s</sub> | 0.00 | 0    | 0    | 0    |
| Motorized vehicle speed adjustment factor - 2024 Background U-4714    | F <sub>s</sub> | 0.00 | 0    | 0    | 0    |
| Motorized vehicle speed adjustment factor - 2024 Build Phase 2 Alt 1  | F <sub>s</sub> | 0.00 | 0    | 0    | 0    |
| Motorized vehicle speed adjustment factor - 2024 Build Phase 2 Alt 2  | F <sub>s</sub> | 0.00 | 0    | 0    | 0    |
| Motorized vehicle speed adjustment factor - 2024 Build Phase 2 Alt 3  | F <sub>s</sub> | 0.00 | 0    | 0    | 0    |
| Motorized vehicle speed adjustment factor - 2024 Build Phase 2 Alt 4  | F <sub>s</sub> | 0.00 | 0    | 0    | 0    |
| Motorized vehicle speed adjustment factor - 2029 Background           | F <sub>s</sub> | 0.00 | 0    | 0    | 0    |
| Motorized vehicle speed adjustment factor - 2029 Background U-4714    | F <sub>s</sub> | 0.00 | 0    | 0    | 0    |
| Motorized vehicle speed adjustment factor - 2034 Background           | F <sub>s</sub> | 0.00 | 0    | 0    | 0    |
| Motorized vehicle speed adjustment factor - 2034 Background U-4714    | F <sub>s</sub> | 0.00 | 0    | 0    | 0    |
| Motorized vehicle speed adjustment factor - 2029 Build Phase 3 Alt 1  | F <sub>s</sub> | 0.00 | 0    | 0    | 0    |
| Motorized vehicle speed adjustment factor - 2029 Build Phase 3 Alt 2  | F <sub>s</sub> | 0.00 | 0    | 0    | 0    |
| Motorized vehicle speed adjustment factor - 2029 Build Phase 3 Alt 3  | F <sub>s</sub> | 0.00 | 0    | 0    | 0    |
| Motorized vehicle speed adjustment factor - 2029 Build Phase 3 Alt 4  | F <sub>s</sub> | 0.00 | 0    | 0    | 0    |
| Motorized vehicle speed adjustment factor - 2034 Build Phase 3 Alt 1  | F <sub>s</sub> | 0.00 | 0    | 0    | 0    |
| Motorized vehicle speed adjustment factor - 2034 Build Phase 3 Alt 2  | F <sub>s</sub> | 0.00 | 0    | 0    | 0    |
| Motorized vehicle speed adjustment factor - 2034 Build Phase 3 Alt 3  | F <sub>s</sub> | 0.00 | 0    | 0    | 0    |
| Motorized vehicle speed adjustment factor - 2034 Build Phase 3 Alt 4  | F <sub>s</sub> | 0.00 | 0    | 0    | 0    |
| Pedestrian delay adjustment factor                                    | F <sub>d</sub> | 0.06 | 0.06 | 0.15 | 0.15 |

|                 | NBL | NBT | NBR | NBU | NBL | SBT | SBR | SBU | EBL | EBT | EBR | EBU | WBL | WBT | WBR | WBU |
|-----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 2019 Existing   | 22  | 115 | 90  | 0   | 262 | 170 | 30  | 0   | 23  | 52  | 44  | 0   | 181 | 156 | 278 | 0   |
| 2022 Background | 57  | 155 | 128 | 0   | 340 | 227 | 44  | 0   | 39  | 78  | 118 | 0   | 257 | 227 | 370 | 0   |
| 2022 Build      | 75  | 168 | 128 | 0   | 340 | 231 | 44  | 0   | 39  | 78  | 124 | 0   | 257 | 227 | 370 | 0   |
| 2027 Build      | 80  | 196 | 149 | 0   | 403 | 272 | 51  | 0   | 45  | 91  | 134 | 0   | 301 | 265 | 436 | 0   |

| LOS | LOS Score | From HCM 6 |
|-----|-----------|------------|
| A   | 1.50      |            |
| B   | 2.50      |            |
| C   | 3.50      |            |
| D   | 4.50      |            |
| E   | 5.50      |            |
| F   | >5.50     |            |



| Results                                                          |                 |      |      |      |      |
|------------------------------------------------------------------|-----------------|------|------|------|------|
| Pedestrian LOS score for intersection - Existing                 | t <sub>90</sub> | 2.42 | 2.32 | 2.14 | 2.82 |
|                                                                  |                 | B    | B    | B    | B    |
| Pedestrian LOS score for intersection - 2022 Background          | t <sub>90</sub> | 2.68 | 2.48 | 2.30 | 3.11 |
|                                                                  | LOS             | C    | B    | C    | B    |
| Pedestrian LOS score for intersection - 2022 Build               | t <sub>90</sub> | 2.70 | 2.49 | 2.34 | 3.11 |
|                                                                  | LOS             | C    | B    | C    | B    |
| Pedestrian LOS score for intersection - 2027 Build               | t <sub>90</sub> | 2.84 | 2.60 | 2.38 | 3.32 |
|                                                                  | LOS             | C    | B    | C    | C    |
| Pedestrian LOS score for intersection - 2021 Build Phase 1 Alt 3 | t <sub>90</sub> | 1.86 | 1.86 | 1.95 | 1.95 |
|                                                                  | LOS             | B    | B    | B    | B    |
| Pedestrian LOS score for intersection - 2021 Build Phase 1 Alt 4 | t <sub>90</sub> | 1.86 | 1.86 | 1.95 | 1.95 |
|                                                                  | LOS             | B    | B    | B    | B    |
| Pedestrian LOS score for intersection - 2024 Background          | t <sub>90</sub> | 1.86 | 1.86 | 1.95 | 1.95 |
|                                                                  | LOS             | B    | B    | B    | B    |
| Pedestrian LOS score for intersection - 2024 Background U-4714   | t <sub>90</sub> | 1.86 | 1.86 | 1.95 | 1.95 |
|                                                                  | LOS             | B    | B    | B    | B    |
| Pedestrian LOS score for intersection - 2029 Background          | t <sub>90</sub> | 1.86 | 1.86 | 1.95 | 1.95 |
|                                                                  | LOS             | B    | B    | B    | B    |
| Pedestrian LOS score for intersection - 2029 Background U-4714   | t <sub>90</sub> | 1.86 | 1.86 | 1.95 | 1.95 |
|                                                                  | LOS             | B    | B    | B    | B    |
| Pedestrian LOS score for intersection - 2034 Background          | t <sub>90</sub> | 1.86 | 1.86 | 1.95 | 1.95 |
|                                                                  | LOS             | B    | B    | B    | B    |
| Pedestrian LOS score for intersection - 2034 Background U-4714   | t <sub>90</sub> | 1.86 | 1.86 | 1.95 | 1.95 |
|                                                                  | LOS             | B    | B    | B    | B    |
| Pedestrian LOS score for intersection - 2029 Build Phase 2 Alt 1 | t <sub>90</sub> | 1.86 | 1.86 | 1.95 | 1.95 |
|                                                                  | LOS             | B    | B    | B    | B    |
| Pedestrian LOS score for intersection - 2029 Build Phase 2 Alt 2 | t <sub>90</sub> | 1.86 | 1.86 | 1.95 | 1.95 |
|                                                                  | LOS             | B    | B    | B    | B    |
| Pedestrian LOS score for intersection - 2029 Build Phase 2 Alt 3 | t <sub>90</sub> | 1.86 | 1.86 | 1.95 | 1.95 |
|                                                                  | LOS             | B    | B    | B    | B    |
| Pedestrian LOS score for intersection - 2034 Build Phase 2 Alt 1 | t <sub>90</sub> | 1.86 | 1.86 | 1.95 | 1.95 |
|                                                                  | LOS             | B    | B    | B    | B    |
| Pedestrian LOS score for intersection - 2034 Build Phase 2 Alt 2 | t <sub>90</sub> | 1.86 | 1.86 | 1.95 | 1.95 |
|                                                                  | LOS             | B    | B    | B    | B    |
| Pedestrian LOS score for intersection - 2034 Build Phase 2 Alt 3 | t <sub>90</sub> | 1.86 | 1.86 | 1.95 | 1.95 |
|                                                                  | LOS             | B    | B    | B    | B    |
| Pedestrian LOS score for intersection - 2034 Build Phase 2 Alt 4 | t <sub>90</sub> | 1.86 | 1.86 | 1.95 | 1.95 |
|                                                                  | LOS             | B    | B    | B    | B    |

Stallings Road and Stevens Mills Road

| PM PEAK HOUR                                    |                      |                      |                      |                      |
|-------------------------------------------------|----------------------|----------------------|----------------------|----------------------|
|                                                 | Crossing NB Approach | Crossing SB Approach | Crossing EB Approach | Crossing WB Approach |
|                                                 | Major                | Major                | Minor                | Minor                |
| Ped Phase                                       | N                    | N                    |                      |                      |
| Speed Limit (85 <sup>th</sup> Percentile Speed) | 45                   | 45                   | 45                   | 45                   |
| Cycle Length (sec)                              | C                    |                      | 70                   |                      |
| Duration of phase for through movement          | D <sub>THRU</sub>    | 45                   | 25                   | 25                   |
| Yellow time for minor-street through movement   | Y <sub>MIN</sub>     | 5.0                  | 5.0                  | 5.0                  |
| Red time for minor-street through movement      | R <sub>MIN</sub>     | 2.0                  | 2.0                  | 2.0                  |
| Walk Time                                       | Walk <sub>MIN</sub>  | 7                    | 7                    | 7                    |
| Crosswalk Length                                | L <sub>W</sub>       | 42                   | 50                   | 50                   |
| Number of lanes crossed                         | N <sub>L</sub>       | 3                    | 3                    | 3                    |
| Number of right-turn channelizing islands       | N <sub>RII</sub>     | 0                    | 0                    | 0                    |
| Walking Speed (ft/sec)                          | S <sub>P</sub>       |                      | 3.5                  |                      |

|                                                                                            |                 |   |   |   |   |
|--------------------------------------------------------------------------------------------|-----------------|---|---|---|---|
| flow rate of peds arriving at the corner after crossing minor street (ped/hr)              | V <sub>ap</sub> | 0 | 2 | 0 | 0 |
| flow rate of peds arriving at the corner to cross minor street (ped/hr)                    | V <sub>ap</sub> | 0 | 0 | 0 | 2 |
| flow rate of peds arriving at the corner after crossing major street (ped/hr)              | V <sub>ap</sub> | 0 | 0 | 0 | 0 |
| flow rate of peds arriving at the corner to cross major street (ped/hr)                    | V <sub>ap</sub> | 2 | 0 | 0 | 0 |
| flow rate of peds traveling through the corner from Sidewalk A to Sidewalk B or vice versa | V <sub>ap</sub> | 2 | 2 | 0 | 4 |

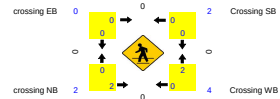
|                                                                                                   |                    |        |       |       |        |
|---------------------------------------------------------------------------------------------------|--------------------|--------|-------|-------|--------|
| Count of vehicles traveling on major/minor street during 15 min period - Existing                 | P <sub>15min</sub> | 56.42  | 54.42 | 30.75 | 74.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2022 Background          | P <sub>15min</sub> | 88.00  | 74.67 | 61.25 | 105.00 |
| Count of vehicles traveling on major/minor street during 15 min period - 2022 Build               | P <sub>15min</sub> | 92.50  | 76.42 | 65.38 | 105.00 |
| Count of vehicles traveling on major/minor street during 15 min period - 2027 Build               | P <sub>15min</sub> | 106.00 | 89.50 | 72.75 | 122.67 |
| Count of vehicles traveling on major/minor street during 15 min period - 2021 Build Phase 1 Alt 3 | P <sub>15min</sub> | 0.00   | 0.00  | 0.00  | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2021 Build Phase 1 Alt 4 | P <sub>15min</sub> | 0.00   | 0.00  | 0.00  | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2024 Background          | P <sub>15min</sub> | 0.00   | 0.00  | 0.00  | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2024 Background U-4714   | P <sub>15min</sub> | 0.00   | 0.00  | 0.00  | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2024 Build Phase 2 Alt 1 | P <sub>15min</sub> | 0.00   | 0.00  | 0.00  | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2024 Build Phase 2 Alt 2 | P <sub>15min</sub> | 0.00   | 0.00  | 0.00  | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2024 Build Phase 2 Alt 3 | P <sub>15min</sub> | 0.00   | 0.00  | 0.00  | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2024 Build Phase 2 Alt 4 | P <sub>15min</sub> | 0.00   | 0.00  | 0.00  | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2029 Background          | P <sub>15min</sub> | 0.00   | 0.00  | 0.00  | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2029 Background U-4714   | P <sub>15min</sub> | 0.00   | 0.00  | 0.00  | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2034 Background          | P <sub>15min</sub> | 0.00   | 0.00  | 0.00  | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2034 Background U-4714   | P <sub>15min</sub> | 0.00   | 0.00  | 0.00  | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2029 Build Phase 3 Alt 1 | P <sub>15min</sub> | 0.00   | 0.00  | 0.00  | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2029 Build Phase 3 Alt 2 | P <sub>15min</sub> | 0.00   | 0.00  | 0.00  | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2029 Build Phase 3 Alt 3 | P <sub>15min</sub> | 0.00   | 0.00  | 0.00  | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2029 Build Phase 3 Alt 4 | P <sub>15min</sub> | 0.00   | 0.00  | 0.00  | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2034 Build Alt 1         | P <sub>15min</sub> | 0.00   | 0.00  | 0.00  | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2034 Build Alt 2         | P <sub>15min</sub> | 0.00   | 0.00  | 0.00  | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2034 Build Alt 3         | P <sub>15min</sub> | 0.00   | 0.00  | 0.00  | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2034 Build Alt 4         | P <sub>15min</sub> | 0.00   | 0.00  | 0.00  | 0.00   |

|                                          |                            |    |    |    |    |
|------------------------------------------|----------------------------|----|----|----|----|
| Effective walk time for through movement | Q <sub>walk,eff,thru</sub> | 38 | 38 | 11 | 11 |
|------------------------------------------|----------------------------|----|----|----|----|

| Adjustment Factors                                                    |                |        |        |        |        |
|-----------------------------------------------------------------------|----------------|--------|--------|--------|--------|
| Pedestrian delay (sec/ped)                                            | d <sub>p</sub> | 7.31   | 7.31   | 24.86  | 24.86  |
| Cross section adjustment factor                                       | F <sub>s</sub> | 1.1978 | 1.1978 | 0.9725 | 1.1978 |
| Motorized vehicle volume adjustment factor - Existing                 | F <sub>v</sub> | 0.1721 | 0.0114 | 0.1286 | 0.3784 |
| Motorized vehicle volume adjustment factor - 2022 Background          | F <sub>v</sub> | 0.2546 | 0.0242 | 0.1459 | 0.5064 |
| Motorized vehicle volume adjustment factor - 2022 Build               | F <sub>v</sub> | 0.2546 | 0.0242 | 0.1518 | 0.5064 |
| Motorized vehicle volume adjustment factor - 2027 Build               | F <sub>v</sub> | 0.2969 | 0.027  | 0.1362 | 0.5975 |
| Motorized vehicle volume adjustment factor - 2021 Build Phase 1 Alt 3 | F <sub>v</sub> | 0      | 0      | 0.1946 | 0      |
| Motorized vehicle volume adjustment factor - 2021 Build Phase 1 Alt 4 | F <sub>v</sub> | 0      | 0      | 0.1946 | 0      |
| Motorized vehicle volume adjustment factor - 2024 Background          | F <sub>v</sub> | 0      | 0      | 0.1946 | 0      |
| Motorized vehicle volume adjustment factor - 2024 Background U-4714   | F <sub>v</sub> | 0      | 0      | 0.1946 | 0      |
| Motorized vehicle volume adjustment factor - 2024 Build Phase 2 Alt 1 | F <sub>v</sub> | 0      | 0      | 0.1946 | 0      |
| Motorized vehicle volume adjustment factor - 2024 Build Phase 2 Alt 2 | F <sub>v</sub> | 0      | 0      | 0.1946 | 0      |
| Motorized vehicle volume adjustment factor - 2024 Build Phase 2 Alt 3 | F <sub>v</sub> | 0      | 0      | 0.1946 | 0      |
| Motorized vehicle volume adjustment factor - 2024 Build Phase 2 Alt 4 | F <sub>v</sub> | 0      | 0      | 0.1946 | 0      |
| Motorized vehicle volume adjustment factor - 2029 Background          | F <sub>v</sub> | 0      | 0      | 0.1946 | 0      |
| Motorized vehicle volume adjustment factor - 2029 Background U-4714   | F <sub>v</sub> | 0      | 0      | 0.1946 | 0      |
| Motorized vehicle volume adjustment factor - 2034 Background          | F <sub>v</sub> | 0      | 0      | 0.1946 | 0      |
| Motorized vehicle volume adjustment factor - 2034 Background U-4714   | F <sub>v</sub> | 0      | 0      | 0.1946 | 0      |
| Motorized vehicle volume adjustment factor - 2029 Build Phase 3 Alt 1 | F <sub>v</sub> | 0      | 0      | 0.1946 | 0      |
| Motorized vehicle volume adjustment factor - 2029 Build Phase 3 Alt 2 | F <sub>v</sub> | 0      | 0      | 0.1946 | 0      |
| Motorized vehicle volume adjustment factor - 2029 Build Phase 3 Alt 3 | F <sub>v</sub> | 0      | 0      | 0.1946 | 0      |
| Motorized vehicle volume adjustment factor - 2029 Build Phase 3 Alt 4 | F <sub>v</sub> | 0      | 0      | 0.1946 | 0      |
| Motorized vehicle volume adjustment factor - 2034 Build Alt 1         | F <sub>v</sub> | 0      | 0      | 0.1946 | 0      |
| Motorized vehicle volume adjustment factor - 2034 Build Alt 2         | F <sub>v</sub> | 0      | 0      | 0.1946 | 0      |
| Motorized vehicle volume adjustment factor - 2034 Build Alt 3         | F <sub>v</sub> | 0      | 0      | 0.1946 | 0      |
| Motorized vehicle volume adjustment factor - 2034 Build Alt 4         | F <sub>v</sub> | 0      | 0      | 0.1946 | 0      |
| Motorized vehicle speed adjustment factor - Existing                  | F <sub>s</sub> | 0.93   | 0.92   | 0.19   | 0.43   |
| Motorized vehicle speed adjustment factor - 2021 Build Phase 1 Alt 1  | F <sub>s</sub> | 0.62   | 0.52   | 0.43   | 0.72   |
| Motorized vehicle speed adjustment factor - 2021 Build Phase 1 Alt 2  | F <sub>s</sub> | 0.54   | 0.45   | 0.38   | 0.61   |
| Motorized vehicle speed adjustment factor - 2021 Build Phase 1 Alt 3  | F <sub>s</sub> | 0.62   | 0.52   | 0.43   | 0.72   |
| Motorized vehicle speed adjustment factor - 2021 Build Phase 1 Alt 4  | F <sub>s</sub> | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2024 Background           | F <sub>s</sub> | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2024 Background U-4714    | F <sub>s</sub> | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2024 Build Phase 2 Alt 1  | F <sub>s</sub> | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2024 Build Phase 2 Alt 2  | F <sub>s</sub> | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2024 Build Phase 2 Alt 3  | F <sub>s</sub> | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2024 Build Phase 2 Alt 4  | F <sub>s</sub> | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2029 Background           | F <sub>s</sub> | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2029 Background U-4714    | F <sub>s</sub> | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2034 Background           | F <sub>s</sub> | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2034 Background U-4714    | F <sub>s</sub> | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2029 Build Phase 3 Alt 1  | F <sub>s</sub> | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2029 Build Phase 3 Alt 2  | F <sub>s</sub> | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2029 Build Phase 3 Alt 3  | F <sub>s</sub> | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2029 Build Phase 3 Alt 4  | F <sub>s</sub> | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2034 Build Phase 3 Alt 1  | F <sub>s</sub> | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2034 Build Phase 3 Alt 2  | F <sub>s</sub> | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2034 Build Phase 3 Alt 3  | F <sub>s</sub> | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2034 Build Phase 3 Alt 4  | F <sub>s</sub> | 0.00   | 0      | 0      | 0      |
| Pedestrian delay adjustment factor                                    | F <sub>d</sub> | 0.04   | 0.04   | 0.06   | 0.06   |

|                 | NBL | NBT | NBR | NBU | NBL | SBT | SBR | SBU | EBL | EBT | EBR | EBU | WBL | WBT | WBR | WBU |
|-----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 2019 Existing   | 12  | 143 | 231 | 0   | 266 | 145 | 11  | 0   | 8   | 149 | 25  | 0   | 121 | 41  | 80  | 0   |
| 2022 background | 82  | 195 | 328 | 0   | 356 | 195 | 25  | 0   | 17  | 217 | 77  | 0   | 179 | 72  | 108 | 0   |
| 2022 Build      | 94  | 203 | 339 | 0   | 356 | 209 | 25  | 0   | 17  | 217 | 98  | 0   | 179 | 72  | 108 | 0   |
| 2027 Build      | 97  | 237 | 383 | 0   | 420 | 243 | 28  | 0   | 19  | 252 | 104 | 0   | 208 | 82  | 127 | 0   |

| LOS | LOS Score |            |
|-----|-----------|------------|
| A   | 1.50      | From HCM 6 |
| B   | 2.50      |            |
| C   | 3.50      |            |
| D   | 4.50      |            |
| E   | 5.50      |            |
| F   | >5.50     |            |



| Results                                                          |                 |      |      |      |      |
|------------------------------------------------------------------|-----------------|------|------|------|------|
| Pedestrian LOS score for intersection - Existing                 | t <sub>90</sub> | 2.34 | 2.17 | 1.94 | 2.67 |
| Pedestrian LOS score for intersection - 2022 Background          | t <sub>90</sub> | 2.60 | 2.30 | 2.14 | 2.97 |
| Pedestrian LOS score for intersection - 2022 Build               | t <sub>90</sub> | 2.63 | 2.31 | 2.16 | 2.97 |
| Pedestrian LOS score for intersection - 2024 Background          | t <sub>90</sub> | 2.75 | 2.38 | 2.20 | 3.18 |
| Pedestrian LOS score for intersection - 2021 Build Phase 1 Alt 3 | t <sub>90</sub> | 1.84 | 1.84 | 1.83 | 1.86 |
| Pedestrian LOS score for intersection - 2021 Build Phase 1 Alt 4 | t <sub>90</sub> | 1.84 | 1.84 | 1.83 | 1.86 |
| Pedestrian LOS score for intersection - 2024 Build Phase 1 Alt 2 | t <sub>90</sub> | 1.84 | 1.84 | 1.83 | 1.86 |
| Pedestrian LOS score for intersection - 2024 Build Phase 1 Alt 3 | t <sub>90</sub> | 1.84 | 1.84 | 1.83 | 1.86 |
| Pedestrian LOS score for intersection - 2024 Build Phase 1 Alt 4 | t <sub>90</sub> | 1.84 | 1.84 | 1.83 | 1.86 |
| Pedestrian LOS score for intersection - 2029 Background          | t <sub>90</sub> | 1.84 | 1.84 | 1.83 | 1.86 |
| Pedestrian LOS score for intersection - 2029 Background U-4714   | t <sub>90</sub> | 1.84 | 1.84 | 1.83 | 1.86 |
| Pedestrian LOS score for intersection - 2034 Background          | t <sub>90</sub> | 1.84 | 1.84 | 1.83 | 1.86 |
| Pedestrian LOS score for intersection - 2034 Background U-4714   | t <sub>90</sub> | 1.84 | 1.84 | 1.83 | 1.86 |
| Pedestrian LOS score for intersection - 2029 Build Phase 2 Alt 1 | t <sub>90</sub> | 1.84 | 1.84 | 1.83 | 1.86 |
| Pedestrian LOS score for intersection - 2029 Build Phase 2 Alt 2 | t <sub>90</sub> | 1.84 | 1.84 | 1.83 | 1.86 |
| Pedestrian LOS score for intersection - 2029 Build Phase 2 Alt 3 | t <sub>90</sub> | 1.84 | 1.84 | 1.83 | 1.86 |
| Pedestrian LOS score for intersection - 2029 Build Phase 2 Alt 4 | t <sub>90</sub> | 1.84 | 1.84 | 1.83 | 1.86 |
| Pedestrian LOS score for intersection - 2034 Build Phase 2 Alt 1 | t <sub>90</sub> | 1.84 | 1.84 | 1.83 | 1.86 |
| Pedestrian LOS score for intersection - 2034 Build Phase 2 Alt 2 | t <sub>90</sub> | 1.84 | 1.84 | 1.83 | 1.86 |
| Pedestrian LOS score for intersection - 2034 Build Phase 2 Alt 3 | t <sub>90</sub> | 1.84 | 1.84 | 1.83 | 1.86 |
| Pedestrian LOS score for intersection - 2034 Build Phase 2 Alt 4 | t <sub>90</sub> | 1.84 | 1.84 | 1.83 | 1.86 |

Stallings Road and Stevens Mills Road

| AM PEAK HOUR                                    |                      |                      |                      |                      |
|-------------------------------------------------|----------------------|----------------------|----------------------|----------------------|
|                                                 | Crossing NB Approach | Crossing SB Approach | Crossing EB Approach | Crossing WB Approach |
|                                                 | Minor                | Minor                | Major                | Major                |
| Ped Phase                                       | N                    | N                    | N                    | N                    |
| Speed Limit (85 <sup>th</sup> Percentile Speed) | 35                   | 40                   | 40                   | 40                   |
| Cycle Length (sec)                              | C                    | 70                   |                      |                      |
| Duration of phase for through movement          | D <sub>THRU</sub>    | 45                   | 35                   | 35                   |
| Yellow time for through movement                | Y <sub>THRU</sub>    | 5.0                  | 5.0                  | 5.0                  |
| Red time for through movement                   | R <sub>THRU</sub>    | 2.0                  | 2.0                  | 2.0                  |
| Walk Time                                       | Walk <sub>min</sub>  | 0                    | 0                    | 0                    |
| Crosswalk Length                                | L <sub>c</sub>       | 42                   | 50                   | 50                   |
| Number of lanes crossed                         | N <sub>c</sub>       | 3                    | 3                    | 3                    |
| Number of right-turn channelizing islands       | N <sub>CHIS</sub>    | 0                    | 0                    | 0                    |
| Walking Speed (ft/sec)                          | S <sub>w</sub>       | 3.5                  |                      |                      |

flow rate of peds arriving at the corner after crossing minor street (ped/hr)

flow rate of peds arriving at the corner to cross minor street (ped/hr)

flow rate of peds arriving at the corner after crossing major street (ped/hr)

flow rate of peds arriving at the corner to cross major street (ped/hr)

flow rate of peds traveling through the corner from Sidewalk A to Sidewalk B or vice versa

|                                                                                                   |                    |       |        |       |        |
|---------------------------------------------------------------------------------------------------|--------------------|-------|--------|-------|--------|
| Count of vehicles traveling on major/minor street during 15 min period - Existing                 | P <sub>15min</sub> | 51.63 | 73.17  | 27.25 | 84.92  |
| Count of vehicles traveling on major/minor street during 15 min period - 2022 Background          | P <sub>15min</sub> | 78.50 | 97.92  | 46.92 | 116.67 |
| Count of vehicles traveling on major/minor street during 15 min period - 2022 Build               | P <sub>15min</sub> | 81.92 | 99.33  | 48.92 | 116.67 |
| Count of vehicles traveling on major/minor street during 15 min period - 2027 Build               | P <sub>15min</sub> | 94.33 | 116.92 | 55.50 | 137.08 |
| Count of vehicles traveling on major/minor street during 15 min period - 2021 Build Phase 1 Alt 3 | P <sub>15min</sub> | 0.00  | 0.00   | 0.00  | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2021 Build Phase 1 Alt 4 | P <sub>15min</sub> | 0.00  | 0.00   | 0.00  | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2024 Background          | P <sub>15min</sub> | 0.00  | 0.00   | 0.00  | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2024 Background U-4714   | P <sub>15min</sub> | 0.00  | 0.00   | 0.00  | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2024 Build Phase 2 Alt 1 | P <sub>15min</sub> | 0.00  | 0.00   | 0.00  | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2024 Build Phase 2 Alt 2 | P <sub>15min</sub> | 0.00  | 0.00   | 0.00  | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2024 Build Phase 2 Alt 3 | P <sub>15min</sub> | 0.00  | 0.00   | 0.00  | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2029 Background          | P <sub>15min</sub> | 0.00  | 0.00   | 0.00  | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2029 Background U-4714   | P <sub>15min</sub> | 0.00  | 0.00   | 0.00  | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2034 Background          | P <sub>15min</sub> | 0.00  | 0.00   | 0.00  | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2034 Background U-4714   | P <sub>15min</sub> | 0.00  | 0.00   | 0.00  | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2029 Build Phase 3 Alt 1 | P <sub>15min</sub> | 0.00  | 0.00   | 0.00  | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2029 Build Phase 3 Alt 2 | P <sub>15min</sub> | 0.00  | 0.00   | 0.00  | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2029 Build Phase 3 Alt 3 | P <sub>15min</sub> | 0.00  | 0.00   | 0.00  | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2029 Build Phase 3 Alt 4 | P <sub>15min</sub> | 0.00  | 0.00   | 0.00  | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2034 Build Alt 1         | P <sub>15min</sub> | 0.00  | 0.00   | 0.00  | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2034 Build Alt 2         | P <sub>15min</sub> | 0.00  | 0.00   | 0.00  | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2034 Build Alt 3         | P <sub>15min</sub> | 0.00  | 0.00   | 0.00  | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2034 Build Alt 4         | P <sub>15min</sub> | 0.00  | 0.00   | 0.00  | 0.00   |

Effective walk time for through movement

Adjustment Factors

Pedestrian delay (sec/ped)

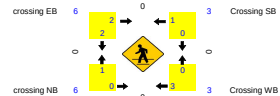
Cross section adjustment factor

|                                                              |                |        |        |        |        |
|--------------------------------------------------------------|----------------|--------|--------|--------|--------|
| Motorized vehicle volume adjustment factor - Existing        | F <sub>v</sub> | 0.2575 | 0.0327 | 0.0313 | 0.3727 |
| Motorized vehicle volume adjustment factor - 2022 Background | F <sub>v</sub> | 0.3656 | 0.0555 | 0.0811 | 0.4837 |
| Motorized vehicle volume adjustment factor - 2022 Build      | F <sub>v</sub> | 0.3656 | 0.0555 | 0.1067 | 0.4837 |
| Motorized vehicle volume adjustment factor - 2027 Build      | F <sub>v</sub> | 0.4282 | 0.064  | 0.1138 | 0.5733 |

|                                                                       |                |      |      |      |      |
|-----------------------------------------------------------------------|----------------|------|------|------|------|
| Motorized vehicle volume adjustment factor - 2021 Build Phase 1 Alt 3 | F <sub>v</sub> | 0    | 0    | 0    | 0    |
| Motorized vehicle volume adjustment factor - 2021 Build Phase 1 Alt 4 | F <sub>v</sub> | 0    | 0    | 0    | 0    |
| Motorized vehicle volume adjustment factor - 2024 Background          | F <sub>v</sub> | 0    | 0    | 0    | 0    |
| Motorized vehicle volume adjustment factor - 2024 Background U-4714   | F <sub>v</sub> | 0    | 0    | 0    | 0    |
| Motorized vehicle volume adjustment factor - 2024 Build Phase 2 Alt 1 | F <sub>v</sub> | 0    | 0    | 0    | 0    |
| Motorized vehicle volume adjustment factor - 2024 Build Phase 2 Alt 2 | F <sub>v</sub> | 0    | 0    | 0    | 0    |
| Motorized vehicle volume adjustment factor - 2024 Build Phase 2 Alt 3 | F <sub>v</sub> | 0    | 0    | 0    | 0    |
| Motorized vehicle volume adjustment factor - 2024 Build Phase 2 Alt 4 | F <sub>v</sub> | 0    | 0    | 0    | 0    |
| Motorized vehicle volume adjustment factor - 2029 Background          | F <sub>v</sub> | 0    | 0    | 0    | 0    |
| Motorized vehicle volume adjustment factor - 2029 Background U-4714   | F <sub>v</sub> | 0    | 0    | 0    | 0    |
| Motorized vehicle volume adjustment factor - 2034 Background          | F <sub>v</sub> | 0    | 0    | 0    | 0    |
| Motorized vehicle volume adjustment factor - 2034 Background U-4714   | F <sub>v</sub> | 0    | 0    | 0    | 0    |
| Motorized vehicle volume adjustment factor - 2029 Build Phase 3 Alt 1 | F <sub>v</sub> | 0    | 0    | 0    | 0    |
| Motorized vehicle volume adjustment factor - 2029 Build Phase 3 Alt 2 | F <sub>v</sub> | 0    | 0    | 0    | 0    |
| Motorized vehicle volume adjustment factor - 2029 Build Phase 3 Alt 3 | F <sub>v</sub> | 0    | 0    | 0    | 0    |
| Motorized vehicle volume adjustment factor - 2029 Build Phase 3 Alt 4 | F <sub>v</sub> | 0    | 0    | 0    | 0    |
| Motorized vehicle volume adjustment factor - 2034 Build Alt 1         | F <sub>v</sub> | 0    | 0    | 0    | 0    |
| Motorized vehicle volume adjustment factor - 2034 Build Alt 2         | F <sub>v</sub> | 0    | 0    | 0    | 0    |
| Motorized vehicle volume adjustment factor - 2034 Build Alt 3         | F <sub>v</sub> | 0    | 0    | 0    | 0    |
| Motorized vehicle volume adjustment factor - 2034 Build Alt 4         | F <sub>v</sub> | 0    | 0    | 0    | 0    |
| Motorized vehicle speed adjustment factor - Existing                  | F <sub>s</sub> | 0.30 | 0.43 | 0.16 | 0.5  |
| Motorized vehicle speed adjustment factor - 2021 Background           | F <sub>s</sub> | 0.48 | 0.57 | 0.27 | 0.68 |
| Motorized vehicle speed adjustment factor - 2021 Build Phase 1 Alt 1  | F <sub>s</sub> | 0.48 | 0.58 | 0.29 | 0.68 |
| Motorized vehicle speed adjustment factor - 2021 Build Phase 1 Alt 2  | F <sub>s</sub> | 0.55 | 0.68 | 0.32 | 0.8  |
| Motorized vehicle speed adjustment factor - 2021 Build Phase 1 Alt 3  | F <sub>s</sub> | 0.00 | 0    | 0    | 0    |
| Motorized vehicle speed adjustment factor - 2021 Build Phase 1 Alt 4  | F <sub>s</sub> | 0.00 | 0    | 0    | 0    |
| Motorized vehicle speed adjustment factor - 2024 Background           | F <sub>s</sub> | 0.00 | 0    | 0    | 0    |
| Motorized vehicle speed adjustment factor - 2024 Background U-4714    | F <sub>s</sub> | 0.00 | 0    | 0    | 0    |
| Motorized vehicle speed adjustment factor - 2024 Build Phase 2 Alt 1  | F <sub>s</sub> | 0.00 | 0    | 0    | 0    |
| Motorized vehicle speed adjustment factor - 2024 Build Phase 2 Alt 2  | F <sub>s</sub> | 0.00 | 0    | 0    | 0    |
| Motorized vehicle speed adjustment factor - 2024 Build Phase 2 Alt 3  | F <sub>s</sub> | 0.00 | 0    | 0    | 0    |
| Motorized vehicle speed adjustment factor - 2024 Build Phase 2 Alt 4  | F <sub>s</sub> | 0.00 | 0    | 0    | 0    |
| Motorized vehicle speed adjustment factor - 2029 Background           | F <sub>s</sub> | 0.00 | 0    | 0    | 0    |
| Motorized vehicle speed adjustment factor - 2029 Background U-4714    | F <sub>s</sub> | 0.00 | 0    | 0    | 0    |
| Motorized vehicle speed adjustment factor - 2034 Background           | F <sub>s</sub> | 0.00 | 0    | 0    | 0    |
| Motorized vehicle speed adjustment factor - 2034 Background U-4714    | F <sub>s</sub> | 0.00 | 0    | 0    | 0    |
| Motorized vehicle speed adjustment factor - 2029 Build Phase 3 Alt 1  | F <sub>s</sub> | 0.00 | 0    | 0    | 0    |
| Motorized vehicle speed adjustment factor - 2029 Build Phase 3 Alt 2  | F <sub>s</sub> | 0.00 | 0    | 0    | 0    |
| Motorized vehicle speed adjustment factor - 2029 Build Phase 3 Alt 3  | F <sub>s</sub> | 0.00 | 0    | 0    | 0    |
| Motorized vehicle speed adjustment factor - 2029 Build Phase 3 Alt 4  | F <sub>s</sub> | 0.00 | 0    | 0    | 0    |
| Motorized vehicle speed adjustment factor - 2034 Build Phase 3 Alt 1  | F <sub>s</sub> | 0.00 | 0    | 0    | 0    |
| Motorized vehicle speed adjustment factor - 2034 Build Phase 3 Alt 2  | F <sub>s</sub> | 0.00 | 0    | 0    | 0    |
| Motorized vehicle speed adjustment factor - 2034 Build Phase 3 Alt 3  | F <sub>s</sub> | 0.00 | 0    | 0    | 0    |
| Motorized vehicle speed adjustment factor - 2034 Build Phase 3 Alt 4  | F <sub>s</sub> | 0.00 | 0    | 0    | 0    |
| Pedestrian delay adjustment factor                                    | F <sub>d</sub> | 0.05 | 0.05 | 0.16 | 0.16 |

|                 | NBL | NBT | NBR | NBU | NBL | SBT | SBR | SBU | EBL | EBT | EBR | EBU | WBL | WBT | WBR | WBU |
|-----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 2019 Existing   | 22  | 115 | 90  | 0   | 262 | 170 | 30  | 0   | 23  | 52  | 44  | 0   | 181 | 156 | 278 | 0   |
| 2022 Background | 57  | 155 | 128 | 0   | 340 | 227 | 44  | 0   | 39  | 78  | 118 | 0   | 257 | 227 | 370 | 0   |
| 2022 Build      | 75  | 168 | 128 | 0   | 340 | 231 | 44  | 0   | 39  | 78  | 124 | 0   | 257 | 227 | 370 | 0   |
| 2027 Build      | 80  | 196 | 149 | 0   | 403 | 272 | 51  | 0   | 45  | 91  | 134 | 0   | 301 | 265 | 436 | 0   |

| LOS | LOS Score |            |
|-----|-----------|------------|
| A   | 1.50      | From HCM 6 |
| B   | 2.50      |            |
| C   | 3.50      |            |
| D   | 4.50      |            |
| E   | 5.50      |            |
| F   | >5.50     |            |



| Results                                                          |                 |      |      |      |      |
|------------------------------------------------------------------|-----------------|------|------|------|------|
| Pedestrian LOS score for intersection - Existing                 | t <sub>90</sub> | 2.41 | 2.31 | 2.15 | 2.83 |
| Pedestrian LOS score for intersection - 2022 Background          | t <sub>90</sub> | 2.67 | 2.47 | 2.31 | 3.12 |
| Pedestrian LOS score for intersection - 2022 Build               | t <sub>90</sub> | 2.68 | 2.48 | 2.35 | 3.12 |
| Pedestrian LOS score for intersection - 2027 Build               | t <sub>90</sub> | 2.83 | 2.59 | 2.39 | 3.32 |
| Pedestrian LOS score for intersection - 2021 Build Phase 1 Alt 3 | t <sub>90</sub> | 1.85 | 1.85 | 1.96 | 1.96 |
| Pedestrian LOS score for intersection - 2021 Build Phase 1 Alt 4 | t <sub>90</sub> | 1.85 | 1.85 | 1.96 | 1.96 |
| Pedestrian LOS score for intersection - 2024 Background          | t <sub>90</sub> | 1.85 | 1.85 | 1.96 | 1.96 |
| Pedestrian LOS score for intersection - 2024 Background U-4714   | t <sub>90</sub> | 1.85 | 1.85 | 1.96 | 1.96 |
| Pedestrian LOS score for intersection - 2029 Background          | t <sub>90</sub> | 1.85 | 1.85 | 1.96 | 1.96 |
| Pedestrian LOS score for intersection - 2029 Background U-4714   | t <sub>90</sub> | 1.85 | 1.85 | 1.96 | 1.96 |
| Pedestrian LOS score for intersection - 2034 Background          | t <sub>90</sub> | 1.85 | 1.85 | 1.96 | 1.96 |
| Pedestrian LOS score for intersection - 2034 Background U-4714   | t <sub>90</sub> | 1.85 | 1.85 | 1.96 | 1.96 |
| Pedestrian LOS score for intersection - 2029 Build Phase 2 Alt 1 | t <sub>90</sub> | 1.85 | 1.85 | 1.96 | 1.96 |
| Pedestrian LOS score for intersection - 2029 Build Phase 2 Alt 2 | t <sub>90</sub> | 1.85 | 1.85 | 1.96 | 1.96 |
| Pedestrian LOS score for intersection - 2029 Build Phase 2 Alt 3 | t <sub>90</sub> | 1.85 | 1.85 | 1.96 | 1.96 |
| Pedestrian LOS score for intersection - 2029 Build Phase 2 Alt 4 | t <sub>90</sub> | 1.85 | 1.85 | 1.96 | 1.96 |
| Pedestrian LOS score for intersection - 2034 Build Phase 2 Alt 1 | t <sub>90</sub> | 1.85 | 1.85 | 1.96 | 1.96 |
| Pedestrian LOS score for intersection - 2034 Build Phase 2 Alt 2 | t <sub>90</sub> | 1.85 | 1.85 | 1.96 | 1.96 |
| Pedestrian LOS score for intersection - 2034 Build Phase 2 Alt 3 | t <sub>90</sub> | 1.85 | 1.85 | 1.96 | 1.96 |
| Pedestrian LOS score for intersection - 2034 Build Phase 2 Alt 4 | t <sub>90</sub> | 1.85 | 1.85 | 1.96 | 1.96 |

Stallings Road and Stevens Mills Road

| PM PEAK HOUR                                    |                      |                      |                      |                      |
|-------------------------------------------------|----------------------|----------------------|----------------------|----------------------|
|                                                 | Crossing NB Approach | Crossing SB Approach | Crossing EB Approach | Crossing WB Approach |
|                                                 | Major                | Major                | Minor                | Minor                |
| Ped Phase                                       | N                    | N                    | N                    | N                    |
| Speed Limit (85 <sup>th</sup> Percentile Speed) | 45                   | 45                   | 45                   | 45                   |
| Cycle Length (sec)                              | C                    | 70                   |                      |                      |
| Duration of phase for through movement          | D <sub>THRU</sub>    | 45                   | 25                   | 25                   |
| Yellow time for minor-street through movement   | Y <sub>MIN</sub>     | 5.0                  | 5.0                  | 5.0                  |
| Red time for minor-street through movement      | R <sub>MIN</sub>     | 2.0                  | 2.0                  | 2.0                  |
| Walk Time                                       | Walk <sub>MIN</sub>  | 0                    | 0                    | 0                    |
| Crosswalk Length                                | L <sub>c</sub>       | 42                   | 50                   | 50                   |
| Number of lanes crossed                         | N <sub>c</sub>       | 3                    | 3                    | 3                    |
| Number of right-turn channelizing islands       | N <sub>CHIS</sub>    | 0                    | 0                    | 0                    |
| Walking Speed (ft/sec)                          | S <sub>p</sub>       | 3.5                  |                      |                      |

|                                                                                            |                 |   |   |   |   |
|--------------------------------------------------------------------------------------------|-----------------|---|---|---|---|
| flow rate of peds arriving at the corner after crossing minor street (ped/hr)              | V <sub>ap</sub> | 0 | 2 | 0 | 0 |
| flow rate of peds arriving at the corner after crossing minor street (ped/hr)              | V <sub>ap</sub> | 0 | 0 | 0 | 2 |
| flow rate of peds arriving at the corner after crossing major street (ped/hr)              | V <sub>ap</sub> | 0 | 0 | 0 | 0 |
| flow rate of peds arriving at the corner to cross major street (ped/hr)                    | V <sub>ap</sub> | 2 | 0 | 0 | 0 |
| flow rate of peds traveling through the corner from Sidewalk A to Sidewalk B or vice versa | V <sub>ap</sub> | 2 | 2 | 0 | 4 |

|                                                                                                   |                    |        |       |       |        |
|---------------------------------------------------------------------------------------------------|--------------------|--------|-------|-------|--------|
| Count of vehicles traveling on major/minor street during 15 min period - Existing                 | P <sub>15min</sub> | 56.42  | 54.42 | 20.50 | 74.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2022 Background          | P <sub>15min</sub> | 88.00  | 74.67 | 40.83 | 105.00 |
| Count of vehicles traveling on major/minor street during 15 min period - 2022 Build               | P <sub>15min</sub> | 92.50  | 76.42 | 43.58 | 105.00 |
| Count of vehicles traveling on major/minor street during 15 min period - 2027 Build               | P <sub>15min</sub> | 106.00 | 89.50 | 48.50 | 122.67 |
| Count of vehicles traveling on major/minor street during 15 min period - 2021 Build Phase 1 Alt 3 | P <sub>15min</sub> | 0.00   | 0.00  | 0.00  | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2021 Build Phase 1 Alt 4 | P <sub>15min</sub> | 0.00   | 0.00  | 0.00  | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2024 Background          | P <sub>15min</sub> | 0.00   | 0.00  | 0.00  | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2024 Background U-4714   | P <sub>15min</sub> | 0.00   | 0.00  | 0.00  | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2024 Build Phase 2 Alt 1 | P <sub>15min</sub> | 0.00   | 0.00  | 0.00  | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2024 Build Phase 2 Alt 2 | P <sub>15min</sub> | 0.00   | 0.00  | 0.00  | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2024 Build Phase 2 Alt 3 | P <sub>15min</sub> | 0.00   | 0.00  | 0.00  | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2024 Build Phase 2 Alt 4 | P <sub>15min</sub> | 0.00   | 0.00  | 0.00  | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2029 Background          | P <sub>15min</sub> | 0.00   | 0.00  | 0.00  | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2029 Background U-4714   | P <sub>15min</sub> | 0.00   | 0.00  | 0.00  | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2034 Background          | P <sub>15min</sub> | 0.00   | 0.00  | 0.00  | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2034 Background U-4714   | P <sub>15min</sub> | 0.00   | 0.00  | 0.00  | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2029 Build Phase 3 Alt 1 | P <sub>15min</sub> | 0.00   | 0.00  | 0.00  | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2029 Build Phase 3 Alt 2 | P <sub>15min</sub> | 0.00   | 0.00  | 0.00  | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2029 Build Phase 3 Alt 3 | P <sub>15min</sub> | 0.00   | 0.00  | 0.00  | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2029 Build Phase 3 Alt 4 | P <sub>15min</sub> | 0.00   | 0.00  | 0.00  | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2034 Build Alt 1         | P <sub>15min</sub> | 0.00   | 0.00  | 0.00  | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2034 Build Alt 2         | P <sub>15min</sub> | 0.00   | 0.00  | 0.00  | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2034 Build Alt 3         | P <sub>15min</sub> | 0.00   | 0.00  | 0.00  | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2034 Build Alt 4         | P <sub>15min</sub> | 0.00   | 0.00  | 0.00  | 0.00   |

|                                          |                        |    |    |    |    |
|------------------------------------------|------------------------|----|----|----|----|
| Effective walk time for through movement | Q <sub>walk, min</sub> | 38 | 38 | 18 | 18 |
|------------------------------------------|------------------------|----|----|----|----|

|                            |                |      |      |       |       |
|----------------------------|----------------|------|------|-------|-------|
| Pedestrian delay (sec/ped) | d <sub>p</sub> | 7.31 | 7.31 | 19.31 | 19.31 |
|----------------------------|----------------|------|------|-------|-------|

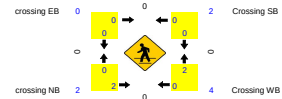
|                                 |                |        |        |        |        |
|---------------------------------|----------------|--------|--------|--------|--------|
| Cross section adjustment factor | F <sub>p</sub> | 1.1978 | 1.1978 | 1.1978 | 1.1978 |
|---------------------------------|----------------|--------|--------|--------|--------|

|                                                              |                |        |        |        |        |
|--------------------------------------------------------------|----------------|--------|--------|--------|--------|
| Motorized vehicle volume adjustment factor - Existing        | F <sub>v</sub> | 0.1721 | 0.0114 | 0.0171 | 0.3784 |
| Motorized vehicle volume adjustment factor - 2022 Background | F <sub>v</sub> | 0.2546 | 0.0242 | 0.1166 | 0.5064 |
| Motorized vehicle volume adjustment factor - 2022 Build      | F <sub>v</sub> | 0.2546 | 0.0242 | 0.1337 | 0.5064 |
| Motorized vehicle volume adjustment factor - 2027 Build      | F <sub>v</sub> | 0.2969 | 0.027  | 0.138  | 0.5975 |

|                                                                       |                |      |      |      |      |
|-----------------------------------------------------------------------|----------------|------|------|------|------|
| Motorized vehicle volume adjustment factor - 2021 Build Phase 1 Alt 3 | F <sub>v</sub> | 0    | 0    | 0    | 0    |
| Motorized vehicle volume adjustment factor - 2021 Build Phase 1 Alt 4 | F <sub>v</sub> | 0    | 0    | 0    | 0    |
| Motorized vehicle volume adjustment factor - 2024 Background          | F <sub>v</sub> | 0    | 0    | 0    | 0    |
| Motorized vehicle volume adjustment factor - 2024 Background U-4714   | F <sub>v</sub> | 0    | 0    | 0    | 0    |
| Motorized vehicle volume adjustment factor - 2024 Build Phase 2 Alt 1 | F <sub>v</sub> | 0    | 0    | 0    | 0    |
| Motorized vehicle volume adjustment factor - 2024 Build Phase 2 Alt 2 | F <sub>v</sub> | 0    | 0    | 0    | 0    |
| Motorized vehicle volume adjustment factor - 2024 Build Phase 2 Alt 3 | F <sub>v</sub> | 0    | 0    | 0    | 0    |
| Motorized vehicle volume adjustment factor - 2024 Build Phase 2 Alt 4 | F <sub>v</sub> | 0    | 0    | 0    | 0    |
| Motorized vehicle volume adjustment factor - 2029 Background          | F <sub>v</sub> | 0    | 0    | 0    | 0    |
| Motorized vehicle volume adjustment factor - 2029 Background U-4714   | F <sub>v</sub> | 0    | 0    | 0    | 0    |
| Motorized vehicle volume adjustment factor - 2034 Background          | F <sub>v</sub> | 0    | 0    | 0    | 0    |
| Motorized vehicle volume adjustment factor - 2034 Background U-4714   | F <sub>v</sub> | 0    | 0    | 0    | 0    |
| Motorized vehicle volume adjustment factor - 2029 Build Phase 3 Alt 1 | F <sub>v</sub> | 0    | 0    | 0    | 0    |
| Motorized vehicle volume adjustment factor - 2029 Build Phase 3 Alt 2 | F <sub>v</sub> | 0    | 0    | 0    | 0    |
| Motorized vehicle volume adjustment factor - 2029 Build Phase 3 Alt 3 | F <sub>v</sub> | 0    | 0    | 0    | 0    |
| Motorized vehicle volume adjustment factor - 2029 Build Phase 3 Alt 4 | F <sub>v</sub> | 0    | 0    | 0    | 0    |
| Motorized vehicle volume adjustment factor - 2034 Build Alt 1         | F <sub>v</sub> | 0    | 0    | 0    | 0    |
| Motorized vehicle volume adjustment factor - 2034 Build Alt 2         | F <sub>v</sub> | 0    | 0    | 0    | 0    |
| Motorized vehicle volume adjustment factor - 2034 Build Alt 3         | F <sub>v</sub> | 0    | 0    | 0    | 0    |
| Motorized vehicle volume adjustment factor - 2034 Build Alt 4         | F <sub>v</sub> | 0    | 0    | 0    | 0    |
| Motorized vehicle speed adjustment factor - Existing                  | F <sub>s</sub> | 0.93 | 0.92 | 0.12 | 0.49 |
| Motorized vehicle speed adjustment factor - 2021 Background           | F <sub>s</sub> | 0.62 | 0.44 | 0.24 | 0.61 |
| Motorized vehicle speed adjustment factor - 2021 Build Phase 1 Alt 1  | F <sub>s</sub> | 0.54 | 0.45 | 0.25 | 0.61 |
| Motorized vehicle speed adjustment factor - 2021 Build Phase 1 Alt 2  | F <sub>s</sub> | 0.62 | 0.52 | 0.28 | 0.72 |
| Motorized vehicle speed adjustment factor - 2021 Build Phase 1 Alt 3  | F <sub>s</sub> | 0.00 | 0    | 0    | 0    |
| Motorized vehicle speed adjustment factor - 2021 Build Phase 1 Alt 4  | F <sub>s</sub> | 0.00 | 0    | 0    | 0    |
| Motorized vehicle speed adjustment factor - 2024 Background           | F <sub>s</sub> | 0.00 | 0    | 0    | 0    |
| Motorized vehicle speed adjustment factor - 2024 Background U-4714    | F <sub>s</sub> | 0.00 | 0    | 0    | 0    |
| Motorized vehicle speed adjustment factor - 2024 Build Phase 2 Alt 1  | F <sub>s</sub> | 0.00 | 0    | 0    | 0    |
| Motorized vehicle speed adjustment factor - 2024 Build Phase 2 Alt 2  | F <sub>s</sub> | 0.00 | 0    | 0    | 0    |
| Motorized vehicle speed adjustment factor - 2024 Build Phase 2 Alt 3  | F <sub>s</sub> | 0.00 | 0    | 0    | 0    |
| Motorized vehicle speed adjustment factor - 2024 Build Phase 2 Alt 4  | F <sub>s</sub> | 0.00 | 0    | 0    | 0    |
| Motorized vehicle speed adjustment factor - 2029 Background           | F <sub>s</sub> | 0.00 | 0    | 0    | 0    |
| Motorized vehicle speed adjustment factor - 2029 Background U-4714    | F <sub>s</sub> | 0.00 | 0    | 0    | 0    |
| Motorized vehicle speed adjustment factor - 2034 Background           | F <sub>s</sub> | 0.00 | 0    | 0    | 0    |
| Motorized vehicle speed adjustment factor - 2034 Background U-4714    | F <sub>s</sub> | 0.00 | 0    | 0    | 0    |
| Motorized vehicle speed adjustment factor - 2029 Build Phase 3 Alt 1  | F <sub>s</sub> | 0.00 | 0    | 0    | 0    |
| Motorized vehicle speed adjustment factor - 2029 Build Phase 3 Alt 2  | F <sub>s</sub> | 0.00 | 0    | 0    | 0    |
| Motorized vehicle speed adjustment factor - 2029 Build Phase 3 Alt 3  | F <sub>s</sub> | 0.00 | 0    | 0    | 0    |
| Motorized vehicle speed adjustment factor - 2029 Build Phase 3 Alt 4  | F <sub>s</sub> | 0.00 | 0    | 0    | 0    |
| Motorized vehicle speed adjustment factor - 2034 Build Phase 3 Alt 1  | F <sub>s</sub> | 0.00 | 0    | 0    | 0    |
| Motorized vehicle speed adjustment factor - 2034 Build Phase 3 Alt 2  | F <sub>s</sub> | 0.00 | 0    | 0    | 0    |
| Motorized vehicle speed adjustment factor - 2034 Build Phase 3 Alt 3  | F <sub>s</sub> | 0.00 | 0    | 0    | 0    |
| Motorized vehicle speed adjustment factor - 2034 Build Phase 3 Alt 4  | F <sub>s</sub> | 0.00 | 0    | 0    | 0    |
| Pedestrian delay adjustment factor                                    | F <sub>d</sub> | 0.04 | 0.04 | 0.11 | 0.11 |

|                 | NBL | NBT | NBR | NBU | NBL | SBT | SBR | SBU | EBL | EBT | EBR | EBU | WBL | WBT | WBR | WBU |
|-----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 2019 Existing   | 12  | 143 | 231 | 0   | 266 | 145 | 11  | 0   | 8   | 149 | 25  | 0   | 121 | 41  | 80  | 0   |
| 2022 background | 82  | 195 | 328 | 0   | 356 | 195 | 25  | 0   | 17  | 217 | 77  | 0   | 179 | 72  | 108 | 0   |
| 2022 Build      | 94  | 203 | 339 | 0   | 366 | 208 | 25  | 0   | 17  | 227 | 98  | 0   | 179 | 72  | 108 | 0   |
| 2027 Build      | 97  | 237 | 383 | 0   | 420 | 243 | 28  | 0   | 19  | 252 | 104 | 0   | 208 | 82  | 127 | 0   |

| LOS | LOS Score | From HCM 6 |
|-----|-----------|------------|
| A   | 1.50      |            |
| B   | 2.50      |            |
| C   | 3.50      |            |
| D   | 4.50      |            |
| E   | 5.50      |            |
| F   | >5.50     |            |



| Results                                                          |                 |      |      |      |      |
|------------------------------------------------------------------|-----------------|------|------|------|------|
| Pedestrian LOS score for intersection - Existing                 | t <sub>90</sub> | 2.34 | 2.17 | 2.04 | 2.72 |
| Pedestrian LOS score for intersection - 2022 Background          | t <sub>90</sub> | 2.60 | 2.30 | 2.26 | 3.02 |
| Pedestrian LOS score for intersection - 2022 Build               | t <sub>90</sub> | 2.63 | 2.31 | 2.29 | 3.02 |
| Pedestrian LOS score for intersection - 2024 Background          | t <sub>90</sub> | 2.75 | 2.38 | 2.33 | 3.22 |
| Pedestrian LOS score for intersection - 2024 Build Phase 1 Alt 3 | t <sub>90</sub> | 1.84 | 1.84 | 1.91 | 1.91 |
| Pedestrian LOS score for intersection - 2024 Build Phase 1 Alt 4 | t <sub>90</sub> | 1.84 | 1.84 | 1.91 | 1.91 |
| Pedestrian LOS score for intersection - 2024 Background U-4714   | t <sub>90</sub> | 1.84 | 1.84 | 1.91 | 1.91 |
| Pedestrian LOS score for intersection - 2029 Background          | t <sub>90</sub> | 1.84 | 1.84 | 1.91 | 1.91 |
| Pedestrian LOS score for intersection - 2029 Background U-4714   | t <sub>90</sub> | 1.84 | 1.84 | 1.91 | 1.91 |
| Pedestrian LOS score for intersection - 2029 Build Phase 2 Alt 3 | t <sub>90</sub> | 1.84 | 1.84 | 1.91 | 1.91 |
| Pedestrian LOS score for intersection - 2029 Build Phase 2 Alt 4 | t <sub>90</sub> | 1.84 | 1.84 | 1.91 | 1.91 |
| Pedestrian LOS score for intersection - 2034 Background          | t <sub>90</sub> | 1.84 | 1.84 | 1.91 | 1.91 |
| Pedestrian LOS score for intersection - 2034 Background U-4714   | t <sub>90</sub> | 1.84 | 1.84 | 1.91 | 1.91 |
| Pedestrian LOS score for intersection - 2034 Build Phase 2 Alt 3 | t <sub>90</sub> | 1.84 | 1.84 | 1.91 | 1.91 |
| Pedestrian LOS score for intersection - 2034 Build Phase 2 Alt 4 | t <sub>90</sub> | 1.84 | 1.84 | 1.91 | 1.91 |

| Stallings Road and Monroe Expressway WB Ramp    |              |                      |                      |                      |                      |
|-------------------------------------------------|--------------|----------------------|----------------------|----------------------|----------------------|
| AM PEAK HOUR                                    |              |                      |                      |                      |                      |
|                                                 |              | Crossing NB Approach | Crossing SB Approach | Crossing EB Approach | Crossing WB Approach |
|                                                 |              | Major                | Major                | Minor                | Minor                |
| Ped Phase                                       |              | N                    | N                    |                      |                      |
| Speed Limit (85 <sup>th</sup> Percentile Speed) | $R_{SL,app}$ | 35                   | 45                   | 30                   | 45                   |
| Cycle Length (sec)                              | C            | 120                  |                      |                      |                      |
| Duration of phase for through movement          | $D_{T,app}$  | 27                   | 27                   | 33                   | 35                   |
| Yellow time for through movement                | $Y_{T,app}$  | 4.3                  | 4.3                  | 4.4                  | 3.8                  |
| Red time for through movement                   | $R_{T,app}$  | 2.4                  | 2.4                  | 1.3                  | 2.6                  |
| Walk Time                                       | $Walk_{app}$ | 0                    | 0                    | 7                    | 7                    |
| Crosswalk Length                                | $L_c$        | 48                   | 36                   | 12                   | 36                   |
| Number of lanes crossed                         | $N_L$        | 4                    | 3                    | 1                    | 3                    |
| Number of right-turn channelizing islands       | $R_{CI,app}$ | 0                    | 0                    | 2                    | 0                    |
| Walking Speed (ft/sec)                          | $S_p$        | 3.5                  |                      |                      |                      |

|                                                                                            |           |   |   |   |   |
|--------------------------------------------------------------------------------------------|-----------|---|---|---|---|
| flow rate of peds arriving at the corner after crossing minor street (ped/hr)              | $V_{a,0}$ | 0 | 0 | 0 | 0 |
| flow rate of peds arriving at the corner to cross minor street (ped/hr)                    | $V_{a,0}$ | 0 | 0 | 0 | 0 |
| flow rate of peds arriving at the corner after crossing major street (ped/hr)              | $V_{a,0}$ | 0 | 0 | 0 | 0 |
| flow rate of peds arriving at the corner to cross major street (ped/hr)                    | $V_{a,0}$ | 0 | 0 | 0 | 0 |
| flow rate of peds traveling through the corner from Sidewalk A to Sidewalk B or vice versa | $V_{a,0}$ | 0 | 0 | 0 | 0 |

|                                                                                                   |              |        |        |        |       |
|---------------------------------------------------------------------------------------------------|--------------|--------|--------|--------|-------|
| Count of vehicles traveling on major/minor street during 15 min period - Existing                 | $P_{15,app}$ | 62.56  | 58.67  | 160.00 | 27.42 |
| Count of vehicles traveling on major/minor street during 15 min period - 2022 Background          | $P_{15,app}$ | 101.00 | 93.08  | 234.75 | 46.67 |
| Count of vehicles traveling on major/minor street during 15 min period - 2022 Build               | $P_{15,app}$ | 105.00 | 101.75 | 242.25 | 47.50 |
| Count of vehicles traveling on major/minor street during 15 min period - 2027 Build               | $P_{15,app}$ | 119.94 | 115.67 | 280.25 | 54.00 |
| Count of vehicles traveling on major/minor street during 15 min period - 2021 Build Phase 1 Alt 3 | $P_{15,app}$ | 0.00   | 0.00   | 0.00   | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2021 Build Phase 1 Alt 4 | $P_{15,app}$ | 0.00   | 0.00   | 0.00   | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2024 Background          | $P_{15,app}$ | 0.00   | 0.00   | 0.00   | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2024 Background U-4714   | $P_{15,app}$ | 0.00   | 0.00   | 0.00   | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2024 Build Phase 2 Alt 1 | $P_{15,app}$ | 0.00   | 0.00   | 0.00   | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2024 Build Phase 2 Alt 2 | $P_{15,app}$ | 0.00   | 0.00   | 0.00   | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2024 Build Phase 2 Alt 3 | $P_{15,app}$ | 0.00   | 0.00   | 0.00   | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2029 Background          | $P_{15,app}$ | 0.00   | 0.00   | 0.00   | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2029 Background U-4714   | $P_{15,app}$ | 0.00   | 0.00   | 0.00   | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2034 Background          | $P_{15,app}$ | 0.00   | 0.00   | 0.00   | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2034 Background U-4714   | $P_{15,app}$ | 0.00   | 0.00   | 0.00   | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2029 Build Phase 3 Alt 1 | $P_{15,app}$ | 0.00   | 0.00   | 0.00   | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2029 Build Phase 3 Alt 2 | $P_{15,app}$ | 0.00   | 0.00   | 0.00   | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2029 Build Phase 3 Alt 3 | $P_{15,app}$ | 0.00   | 0.00   | 0.00   | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2029 Build Phase 3 Alt 4 | $P_{15,app}$ | 0.00   | 0.00   | 0.00   | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2034 Build Alt 1         | $P_{15,app}$ | 0.00   | 0.00   | 0.00   | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2034 Build Alt 2         | $P_{15,app}$ | 0.00   | 0.00   | 0.00   | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2034 Build Alt 3         | $P_{15,app}$ | 0.00   | 0.00   | 0.00   | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2034 Build Alt 4         | $P_{15,app}$ | 0.00   | 0.00   | 0.00   | 0.00  |

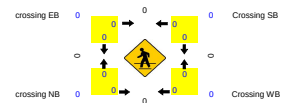
|                                          |                   |      |      |    |    |
|------------------------------------------|-------------------|------|------|----|----|
| Effective walk time for through movement | $\phi_{walk,app}$ | 20.3 | 20.3 | 11 | 11 |
|------------------------------------------|-------------------|------|------|----|----|

| Adjustment Factors              |          |        |        |        |        |
|---------------------------------|----------|--------|--------|--------|--------|
| Pedestrian delay (sec/ped)      | $d_p$    | 41.42  | 41.42  | 49.50  | 49.50  |
| Cross section adjustment factor | $F_{cs}$ | 1.3887 | 1.1978 | 0.6810 | 1.1978 |

|                                                                       |       |        |      |        |      |
|-----------------------------------------------------------------------|-------|--------|------|--------|------|
| Motorized vehicle volume adjustment factor - Existing                 | $F_v$ | 0.1721 | 0    | 0.5946 | 0    |
| Motorized vehicle volume adjustment factor - 2022 Background          | $F_v$ | 0.3969 | 0    | 0.8535 | 0    |
| Motorized vehicle volume adjustment factor - 2022 Build               | $F_v$ | 0.3969 | 0    | 0.8535 | 0    |
| Motorized vehicle volume adjustment factor - 2027 Build               | $F_v$ | 0.4381 | 0    | 0.9959 | 0    |
| Motorized vehicle volume adjustment factor - 2021 Build Phase 1 Alt 3 | $F_v$ | 0      | 0    | 0      | 0    |
| Motorized vehicle volume adjustment factor - 2021 Build Phase 1 Alt 4 | $F_v$ | 0      | 0    | 0      | 0    |
| Motorized vehicle volume adjustment factor - 2024 Background          | $F_v$ | 0      | 0    | 0      | 0    |
| Motorized vehicle volume adjustment factor - 2024 Background U-4714   | $F_v$ | 0      | 0    | 0      | 0    |
| Motorized vehicle volume adjustment factor - 2024 Build Phase 2 Alt 1 | $F_v$ | 0      | 0    | 0      | 0    |
| Motorized vehicle volume adjustment factor - 2024 Build Phase 2 Alt 2 | $F_v$ | 0      | 0    | 0      | 0    |
| Motorized vehicle volume adjustment factor - 2024 Build Phase 2 Alt 3 | $F_v$ | 0      | 0    | 0      | 0    |
| Motorized vehicle volume adjustment factor - 2024 Build Phase 2 Alt 4 | $F_v$ | 0      | 0    | 0      | 0    |
| Motorized vehicle volume adjustment factor - 2029 Background          | $F_v$ | 0      | 0    | 0      | 0    |
| Motorized vehicle volume adjustment factor - 2029 Background U-4714   | $F_v$ | 0      | 0    | 0      | 0    |
| Motorized vehicle volume adjustment factor - 2034 Background          | $F_v$ | 0      | 0    | 0      | 0    |
| Motorized vehicle volume adjustment factor - 2034 Background U-4714   | $F_v$ | 0      | 0    | 0      | 0    |
| Motorized vehicle volume adjustment factor - 2029 Build Phase 3 Alt 1 | $F_v$ | 0      | 0    | 0      | 0    |
| Motorized vehicle volume adjustment factor - 2029 Build Phase 3 Alt 2 | $F_v$ | 0      | 0    | 0      | 0    |
| Motorized vehicle volume adjustment factor - 2029 Build Phase 3 Alt 3 | $F_v$ | 0      | 0    | 0      | 0    |
| Motorized vehicle volume adjustment factor - 2029 Build Phase 3 Alt 4 | $F_v$ | 0      | 0    | 0      | 0    |
| Motorized vehicle volume adjustment factor - 2034 Build Alt 1         | $F_v$ | 0      | 0    | 0      | 0    |
| Motorized vehicle volume adjustment factor - 2034 Build Alt 2         | $F_v$ | 0      | 0    | 0      | 0    |
| Motorized vehicle volume adjustment factor - 2034 Build Alt 3         | $F_v$ | 0      | 0    | 0      | 0    |
| Motorized vehicle volume adjustment factor - 2034 Build Alt 4         | $F_v$ | 0      | 0    | 0      | 0    |
| Motorized vehicle speed adjustment factor - Existing                  | $F_s$ | 0.28   | 0.34 | 0.62   | 0.16 |
| Motorized vehicle speed adjustment factor - 2021 Background           | $F_s$ | 0.46   | 0.54 | 0.92   | 0.27 |
| Motorized vehicle speed adjustment factor - 2021 Build Phase 1 Alt 1  | $F_s$ | 0.48   | 0.6  | 0.94   | 0.28 |
| Motorized vehicle speed adjustment factor - 2021 Build Phase 1 Alt 2  | $F_s$ | 0.55   | 0.68 | 1.09   | 0.32 |
| Motorized vehicle speed adjustment factor - 2021 Build Phase 1 Alt 3  | $F_s$ | 0.00   | 0    | 0      | 0    |
| Motorized vehicle speed adjustment factor - 2021 Build Phase 1 Alt 4  | $F_s$ | 0.00   | 0    | 0      | 0    |
| Motorized vehicle speed adjustment factor - 2024 Background           | $F_s$ | 0.00   | 0    | 0      | 0    |
| Motorized vehicle speed adjustment factor - 2024 Background U-4714    | $F_s$ | 0.00   | 0    | 0      | 0    |
| Motorized vehicle speed adjustment factor - 2024 Build Phase 2 Alt 1  | $F_s$ | 0.00   | 0    | 0      | 0    |
| Motorized vehicle speed adjustment factor - 2024 Build Phase 2 Alt 2  | $F_s$ | 0.00   | 0    | 0      | 0    |
| Motorized vehicle speed adjustment factor - 2024 Build Phase 2 Alt 3  | $F_s$ | 0.00   | 0    | 0      | 0    |
| Motorized vehicle speed adjustment factor - 2024 Build Phase 2 Alt 4  | $F_s$ | 0.00   | 0    | 0      | 0    |
| Motorized vehicle speed adjustment factor - 2029 Background           | $F_s$ | 0.00   | 0    | 0      | 0    |
| Motorized vehicle speed adjustment factor - 2029 Background U-4714    | $F_s$ | 0.00   | 0    | 0      | 0    |
| Motorized vehicle speed adjustment factor - 2034 Background           | $F_s$ | 0.00   | 0    | 0      | 0    |
| Motorized vehicle speed adjustment factor - 2034 Background U-4714    | $F_s$ | 0.00   | 0    | 0      | 0    |
| Motorized vehicle speed adjustment factor - 2029 Build Phase 3 Alt 1  | $F_s$ | 0.00   | 0    | 0      | 0    |
| Motorized vehicle speed adjustment factor - 2029 Build Phase 3 Alt 2  | $F_s$ | 0.00   | 0    | 0      | 0    |
| Motorized vehicle speed adjustment factor - 2029 Build Phase 3 Alt 3  | $F_s$ | 0.00   | 0    | 0      | 0    |
| Motorized vehicle speed adjustment factor - 2029 Build Phase 3 Alt 4  | $F_s$ | 0.00   | 0    | 0      | 0    |
| Motorized vehicle speed adjustment factor - 2034 Build Phase 3 Alt 1  | $F_s$ | 0.00   | 0    | 0      | 0    |
| Motorized vehicle speed adjustment factor - 2034 Build Phase 3 Alt 2  | $F_s$ | 0.00   | 0    | 0      | 0    |
| Motorized vehicle speed adjustment factor - 2034 Build Phase 3 Alt 3  | $F_s$ | 0.00   | 0    | 0      | 0    |
| Motorized vehicle speed adjustment factor - 2034 Build Phase 3 Alt 4  | $F_s$ | 0.00   | 0    | 0      | 0    |
| Pedestrian delay adjustment factor                                    | $F_d$ | 0.19   | 0.24 | 0.04   | 0.06 |

|                 | NBL | NBT | NBR | NBU | NBL | SBT | SBR | SBU | EBL | EBT | EBR | EBU | WBL | WBT | WBR | WBU |
|-----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 2020 Existing   | 418 | 210 | 0   | 0   | 0   | 252 | 128 | 0   | 0   | 0   | 0   | 0   | 121 | 94  | 114 | 0   |
| 2022 Background | 600 | 310 | 0   | 0   | 0   | 427 | 219 | 0   | 0   | 0   | 0   | 0   | 279 | 120 | 161 | 0   |
| 2022 Build      | 600 | 326 | 0   | 0   | 0   | 475 | 249 | 0   | 0   | 0   | 0   | 0   | 279 | 120 | 171 | 0   |
| 2022 Build      | 700 | 376 | 0   | 0   | 0   | 535 | 279 | 0   | 0   | 0   | 0   | 0   | 308 | 142 | 198 | 0   |

| LOS | LOS Score | From HCM 6 |
|-----|-----------|------------|
| A   | 1.50      |            |
| B   | 2.50      |            |
| C   | 3.50      |            |
| D   | 4.50      |            |
| E   | 5.50      |            |
| F   | >5.50     |            |



| Results                                                          |             |      |      |      |      |
|------------------------------------------------------------------|-------------|------|------|------|------|
| Pedestrian LOS score for intersection - Existing                 | $t_{p,app}$ | 2.63 | 2.38 | 2.54 | 2.02 |
| Pedestrian LOS score for intersection - 2022 Background          | $t_{p,app}$ | 2.64 | 2.58 | 2.24 | 2.13 |
| Pedestrian LOS score for intersection - 2022 Build               | $t_{p,app}$ | 3.06 | 2.64 | 3.11 | 2.14 |
| Pedestrian LOS score for intersection - 2027 Build               | $t_{p,app}$ | 3.17 | 2.72 | 3.41 | 2.18 |
| Pedestrian LOS score for intersection - 2021 Build Phase 1 Alt 3 | $t_{p,app}$ | 2.18 | 2.04 | 1.32 | 1.86 |
| Pedestrian LOS score for intersection - 2021 Build Phase 1 Alt 4 | $t_{p,app}$ | 2.18 | 2.04 | 1.32 | 1.86 |
| Pedestrian LOS score for intersection - 2024 Background          | $t_{p,app}$ | 2.18 | 2.04 | 1.32 | 1.86 |
| Pedestrian LOS score for intersection - 2024 Background U-4714   | $t_{p,app}$ | 2.18 | 2.04 | 1.32 | 1.86 |
| Pedestrian LOS score for intersection - 2029 Background          | $t_{p,app}$ | 2.18 | 2.04 | 1.32 | 1.86 |
| Pedestrian LOS score for intersection - 2029 Background U-4714   | $t_{p,app}$ | 2.18 | 2.04 | 1.32 | 1.86 |
| Pedestrian LOS score for intersection - 2034 Background          | $t_{p,app}$ | 2.18 | 2.04 | 1.32 | 1.86 |
| Pedestrian LOS score for intersection - 2034 Background U-4714   | $t_{p,app}$ | 2.18 | 2.04 | 1.32 | 1.86 |
| Pedestrian LOS score for intersection - 2029 Build Phase 2 Alt 1 | $t_{p,app}$ | 2.18 | 2.04 | 1.32 | 1.86 |
| Pedestrian LOS score for intersection - 2029 Build Phase 2 Alt 2 | $t_{p,app}$ | 2.18 | 2.04 | 1.32 | 1.86 |
| Pedestrian LOS score for intersection - 2029 Build Phase 2 Alt 3 | $t_{p,app}$ | 2.18 | 2.04 | 1.32 | 1.86 |
| Pedestrian LOS score for intersection - 2029 Build Phase 2 Alt 4 | $t_{p,app}$ | 2.18 | 2.04 | 1.32 | 1.86 |
| Pedestrian LOS score for intersection - 2034 Build Phase 2 Alt 1 | $t_{p,app}$ | 2.18 | 2.04 | 1.32 | 1.86 |
| Pedestrian LOS score for intersection - 2034 Build Phase 2 Alt 2 | $t_{p,app}$ | 2.18 | 2.04 | 1.32 | 1.86 |
| Pedestrian LOS score for intersection - 2034 Build Phase 2 Alt 3 | $t_{p,app}$ | 2.18 | 2.04 | 1.32 | 1.86 |
| Pedestrian LOS score for intersection - 2034 Build Phase 2 Alt 4 | $t_{p,app}$ | 2.18 | 2.04 | 1.32 | 1.86 |

Stallings Road and Monroe Expressway WB Ramp

| PM PEAK HOUR                                    |                      |                      |                      |                      |
|-------------------------------------------------|----------------------|----------------------|----------------------|----------------------|
|                                                 | Crossing NB Approach | Crossing SB Approach | Crossing EB Approach | Crossing WB Approach |
|                                                 | Major                | Major                | Minor                | Minor                |
| Ped Phase                                       | N                    | N                    |                      |                      |
| Speed Limit (85 <sup>th</sup> Percentile Speed) | 35                   | 45                   | 45                   | 45                   |
| Cycle Length (sec)                              | C                    | 120                  |                      |                      |
| Duration of phase for through movement          | D <sub>THRU</sub>    | 22                   | 38                   | 34                   |
| Yellow time for minor-street through movement   | Y <sub>MIN</sub>     | 4.2                  | 4.4                  | 3.8                  |
| Red time for minor-street through movement      | R <sub>MIN</sub>     | 2.4                  | 2.8                  | 2.6                  |
| Walk Time                                       | Walk <sub>MIN</sub>  | 0                    | 7                    | 7                    |
| Crosswalk Length                                | L <sub>c</sub>       | 48                   | 36                   | 36                   |
| Number of lanes crossed                         | N <sub>c</sub>       | 4                    | 3                    | 3                    |
| Number of right-turn channelizing islands       | N <sub>CHISL</sub>   | 0                    | 0                    | 0                    |
| Walking Speed (ft/sec)                          | S <sub>p</sub>       | 3.5                  |                      |                      |

flow rate of peds arriving at the corner after crossing minor street (ped/hr)

V<sub>pa</sub> 0 0 0 0

flow rate of peds arriving at the corner to cross minor street (ped/hr)

V<sub>pc</sub> 0 0 0 0

flow rate of peds arriving at the corner after crossing major street (ped/hr)

V<sub>pa</sub> 0 0 0 0

flow rate of peds arriving at the corner to cross major street (ped/hr)

V<sub>pc</sub> 0 0 0 0

flow rate of peds traveling through the corner from Sidewalk A to Sidewalk B or vice versa

V<sub>ap</sub> 0 0 0 0

Count of vehicles traveling on major/minor street during 15 min period - Existing P<sub>15min</sub> 66.19 64.67 159.25 26.00

Count of vehicles traveling on major/minor street during 15 min period - 2022 Background P<sub>15min</sub> 111.66 105.58 248.75 45.08

Count of vehicles traveling on major/minor street during 15 min period - 2022 Build P<sub>15min</sub> 117.00 117.42 254.00 47.92

Count of vehicles traveling on major/minor street during 15 min period - 2027 Build P<sub>15min</sub> 132.75 132.75 251.75 54.17

Count of vehicles traveling on major/minor street during 15 min period - 2021 Build Phase 1 Alt 3 P<sub>15min</sub> 0.00 0.00 0.00 0.00

Count of vehicles traveling on major/minor street during 15 min period - 2021 Build Phase 1 Alt 4 P<sub>15min</sub> 0.00 0.00 0.00 0.00

Count of vehicles traveling on major/minor street during 15 min period - 2024 Background P<sub>15min</sub> 0.00 0.00 0.00 0.00

Count of vehicles traveling on major/minor street during 15 min period - 2024 Background U-4714 P<sub>15min</sub> 0.00 0.00 0.00 0.00

Count of vehicles traveling on major/minor street during 15 min period - 2024 Build Phase 2 Alt 1 P<sub>15min</sub> 0.00 0.00 0.00 0.00

Count of vehicles traveling on major/minor street during 15 min period - 2024 Build Phase 2 Alt 2 P<sub>15min</sub> 0.00 0.00 0.00 0.00

Count of vehicles traveling on major/minor street during 15 min period - 2024 Build Phase 2 Alt 3 P<sub>15min</sub> 0.00 0.00 0.00 0.00

Count of vehicles traveling on major/minor street during 15 min period - 2029 Background P<sub>15min</sub> 0.00 0.00 0.00 0.00

Count of vehicles traveling on major/minor street during 15 min period - 2029 Background U-4714 P<sub>15min</sub> 0.00 0.00 0.00 0.00

Count of vehicles traveling on major/minor street during 15 min period - 2034 Background P<sub>15min</sub> 0.00 0.00 0.00 0.00

Count of vehicles traveling on major/minor street during 15 min period - 2034 Background U-4714 P<sub>15min</sub> 0.00 0.00 0.00 0.00

Count of vehicles traveling on major/minor street during 15 min period - 2029 Build Phase 3 Alt 1 P<sub>15min</sub> 0.00 0.00 0.00 0.00

Count of vehicles traveling on major/minor street during 15 min period - 2029 Build Phase 3 Alt 2 P<sub>15min</sub> 0.00 0.00 0.00 0.00

Count of vehicles traveling on major/minor street during 15 min period - 2029 Build Phase 3 Alt 3 P<sub>15min</sub> 0.00 0.00 0.00 0.00

Count of vehicles traveling on major/minor street during 15 min period - 2029 Build Phase 3 Alt 4 P<sub>15min</sub> 0.00 0.00 0.00 0.00

Count of vehicles traveling on major/minor street during 15 min period - 2034 Build Alt 1 P<sub>15min</sub> 0.00 0.00 0.00 0.00

Count of vehicles traveling on major/minor street during 15 min period - 2034 Build Alt 2 P<sub>15min</sub> 0.00 0.00 0.00 0.00

Count of vehicles traveling on major/minor street during 15 min period - 2034 Build Alt 3 P<sub>15min</sub> 0.00 0.00 0.00 0.00

Count of vehicles traveling on major/minor street during 15 min period - 2034 Build Alt 4 P<sub>15min</sub> 0.00 0.00 0.00 0.00

Effective walk time for through movement Q<sub>walk, min</sub> 15.3 15.3 11 11

Adjustment Factors

Pedestrian delay (sec/ped) d<sub>p</sub> 45.68 45.68 49.50 49.50

Cross section adjustment factor F<sub>p</sub> 1.3887 1.1978 0.6810 1.1978

Motorized vehicle volume adjustment factor - Existing F<sub>v</sub> 0.1579 0 0.5775 0

Motorized vehicle volume adjustment factor - 2022 Background F<sub>v</sub> 0.3357 0 0.946 0

Motorized vehicle volume adjustment factor - 2022 Build F<sub>v</sub> 0.3557 0 0.946 0

Motorized vehicle volume adjustment factor - 2027 Build F<sub>v</sub> 0.3741 0 1.0825 0

Motorized vehicle volume adjustment factor - 2021 Build Phase 1 Alt 3 F<sub>v</sub> 0 0 0 0

Motorized vehicle volume adjustment factor - 2021 Build Phase 1 Alt 4 F<sub>v</sub> 0 0 0 0

Motorized vehicle volume adjustment factor - 2024 Background F<sub>v</sub> 0 0 0 0

Motorized vehicle volume adjustment factor - 2024 Background U-4714 F<sub>v</sub> 0 0 0 0

Motorized vehicle volume adjustment factor - 2024 Build Phase 2 Alt 1 F<sub>v</sub> 0 0 0 0

Motorized vehicle volume adjustment factor - 2024 Build Phase 2 Alt 2 F<sub>v</sub> 0 0 0 0

Motorized vehicle volume adjustment factor - 2024 Build Phase 2 Alt 3 F<sub>v</sub> 0 0 0 0

Motorized vehicle volume adjustment factor - 2024 Build Phase 2 Alt 4 F<sub>v</sub> 0 0 0 0

Motorized vehicle volume adjustment factor - 2029 Background F<sub>v</sub> 0 0 0 0

Motorized vehicle volume adjustment factor - 2029 Background U-4714 F<sub>v</sub> 0 0 0 0

Motorized vehicle volume adjustment factor - 2034 Background F<sub>v</sub> 0 0 0 0

Motorized vehicle volume adjustment factor - 2034 Background U-4714 F<sub>v</sub> 0 0 0 0

Motorized vehicle volume adjustment factor - 2029 Build Phase 3 Alt 1 F<sub>v</sub> 0 0 0 0

Motorized vehicle volume adjustment factor - 2029 Build Phase 3 Alt 2 F<sub>v</sub> 0 0 0 0

Motorized vehicle volume adjustment factor - 2029 Build Phase 3 Alt 3 F<sub>v</sub> 0 0 0 0

Motorized vehicle volume adjustment factor - 2029 Build Phase 3 Alt 4 F<sub>v</sub> 0 0 0 0

Motorized vehicle volume adjustment factor - 2034 Build Alt 1 F<sub>v</sub> 0 0 0 0

Motorized vehicle volume adjustment factor - 2034 Build Alt 2 F<sub>v</sub> 0 0 0 0

Motorized vehicle volume adjustment factor - 2034 Build Alt 3 F<sub>v</sub> 0 0 0 0

Motorized vehicle volume adjustment factor - 2034 Build Alt 4 F<sub>v</sub> 0 0 0 0

Motorized vehicle speed adjustment factor - Existing F<sub>s</sub> 0.30 0.38 0.93 0.15

Motorized vehicle speed adjustment factor - 2021 Build Phase 1 Alt 1 F<sub>s</sub> 0.53 0.69 1.49 0.28

Motorized vehicle speed adjustment factor - 2021 Build Phase 1 Alt 2 F<sub>s</sub> 0.60 0.78 1.71 0.32

Motorized vehicle speed adjustment factor - 2021 Build Phase 1 Alt 3 F<sub>s</sub> 0.00 0 0 0

Motorized vehicle speed adjustment factor - 2021 Build Phase 1 Alt 4 F<sub>s</sub> 0.00 0 0 0

Motorized vehicle speed adjustment factor - 2024 Background F<sub>s</sub> 0.00 0 0 0

Motorized vehicle speed adjustment factor - 2024 Background U-4714 F<sub>s</sub> 0.00 0 0 0

Motorized vehicle speed adjustment factor - 2024 Build Phase 2 Alt 1 F<sub>s</sub> 0.00 0 0 0

Motorized vehicle speed adjustment factor - 2024 Build Phase 2 Alt 2 F<sub>s</sub> 0.00 0 0 0

Motorized vehicle speed adjustment factor - 2024 Build Phase 2 Alt 3 F<sub>s</sub> 0.00 0 0 0

Motorized vehicle speed adjustment factor - 2024 Build Phase 2 Alt 4 F<sub>s</sub> 0.00 0 0 0

Motorized vehicle speed adjustment factor - 2029 Background F<sub>s</sub> 0.00 0 0 0

Motorized vehicle speed adjustment factor - 2029 Background U-4714 F<sub>s</sub> 0.00 0 0 0

Motorized vehicle speed adjustment factor - 2034 Background F<sub>s</sub> 0.00 0 0 0

Motorized vehicle speed adjustment factor - 2034 Background U-4714 F<sub>s</sub> 0.00 0 0 0

Motorized vehicle speed adjustment factor - 2029 Build Phase 3 Alt 1 F<sub>s</sub> 0.00 0 0 0

Motorized vehicle speed adjustment factor - 2029 Build Phase 3 Alt 2 F<sub>s</sub> 0.00 0 0 0

Motorized vehicle speed adjustment factor - 2029 Build Phase 3 Alt 3 F<sub>s</sub> 0.00 0 0 0

Motorized vehicle speed adjustment factor - 2029 Build Phase 3 Alt 4 F<sub>s</sub> 0.00 0 0 0

Motorized vehicle speed adjustment factor - 2034 Build Alt 1 F<sub>s</sub> 0.00 0 0 0

Motorized vehicle speed adjustment factor - 2034 Build Alt 2 F<sub>s</sub> 0.00 0 0 0

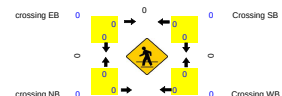
Motorized vehicle speed adjustment factor - 2034 Build Alt 3 F<sub>s</sub> 0.00 0 0 0

Motorized vehicle speed adjustment factor - 2034 Build Alt 4 F<sub>s</sub> 0.00 0 0 0

Pedestrian delay adjustment factor F<sub>d</sub> 0.21 0.27 0.06 0.06

|                 | NBL | NBT | NBR | NBU | NBL | SBT | SBR | SBU | EBL | EBT | EBR | EBU | WBL | WBT | WBR | WBU |
|-----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 2020 Existing   | 406 | 307 | 0   | 0   | 0   | 235 | 132 | 0   | 0   | 0   | 0   | 0   | 111 | 99  | 102 | 0   |
| 2022 Background | 665 | 513 | 0   | 0   | 0   | 371 | 204 | 0   | 0   | 0   | 0   | 0   | 236 | 126 | 179 | 0   |
| 2022 Background | 665 | 568 | 0   | 0   | 0   | 403 | 225 | 0   | 0   | 0   | 0   | 0   | 228 | 126 | 213 | 0   |
| 2022 Build      | 761 | 641 | 0   | 0   | 0   | 469 | 258 | 0   | 0   | 0   | 0   | 0   | 263 | 150 | 237 | 0   |

| LOS | LOS Score | From HCM 6 |
|-----|-----------|------------|
| A   | 1.50      |            |
| B   | 2.50      |            |
| C   | 3.50      |            |
| D   | 4.50      |            |
| F   | >5.50     |            |

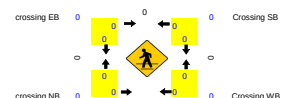


| Results                                                          |                 |      |      |      |      |
|------------------------------------------------------------------|-----------------|------|------|------|------|
| Pedestrian LOS score for intersection - Existing                 | t <sub>90</sub> | 2.66 | 2.45 | 2.85 | 2.01 |
| Pedestrian LOS score for intersection - 2022 Background          | LOS             | C    | B    | C    | B    |
| Pedestrian LOS score for intersection - 2022 Build               | t <sub>90</sub> | 3.04 | 2.69 | 3.75 | 2.12 |
| Pedestrian LOS score for intersection - 2024 Background          | LOS             | C    | C    | D    | B    |
| Pedestrian LOS score for intersection - 2024 Build Phase 1 Alt 1 | t <sub>90</sub> | 3.06 | 2.76 | 3.78 | 2.14 |
| Pedestrian LOS score for intersection - 2024 Build Phase 1 Alt 2 | LOS             | C    | C    | D    | B    |
| Pedestrian LOS score for intersection - 2024 Build Phase 1 Alt 3 | t <sub>90</sub> | 3.17 | 2.85 | 4.13 | 2.18 |
| Pedestrian LOS score for intersection - 2024 Build Phase 1 Alt 4 | LOS             | C    | C    | D    | B    |
| Pedestrian LOS score for intersection - 2024 Build Phase 2 Alt 1 | t <sub>90</sub> | 2.20 | 2.07 | 1.34 | 1.86 |
| Pedestrian LOS score for intersection - 2024 Build Phase 2 Alt 2 | LOS             | B    | B    | A    | B    |
| Pedestrian LOS score for intersection - 2024 Build Phase 2 Alt 3 | t <sub>90</sub> | 2.20 | 2.07 | 1.34 | 1.86 |
| Pedestrian LOS score for intersection - 2024 Build Phase 2 Alt 4 | LOS             | B    | B    | A    | B    |
| Pedestrian LOS score for intersection - 2029 Background          | t <sub>90</sub> | 2.20 | 2.07 | 1.34 | 1.86 |
| Pedestrian LOS score for intersection - 2029 Background U-4714   | LOS             | B    | B    | A    | B    |
| Pedestrian LOS score for intersection - 2029 Build Phase 3 Alt 1 | t <sub>90</sub> | 2.20 | 2.07 | 1.34 | 1.86 |
| Pedestrian LOS score for intersection - 2029 Build Phase 3 Alt 2 | LOS             | B    | B    | A    | B    |
| Pedestrian LOS score for intersection - 2029 Build Phase 3 Alt 3 | t <sub>90</sub> | 2.20 | 2.07 | 1.34 | 1.86 |
| Pedestrian LOS score for intersection - 2029 Build Phase 3 Alt 4 | LOS             | B    | B    | A    | B    |
| Pedestrian LOS score for intersection - 2034 Background          | t <sub>90</sub> | 2.20 | 2.07 | 1.34 | 1.86 |
| Pedestrian LOS score for intersection - 2034 Background U-4714   | LOS             | B    | B    | A    | B    |
| Pedestrian LOS score for intersection - 2034 Build Phase 2 Alt 1 | t <sub>90</sub> | 2.20 | 2.07 | 1.34 | 1.86 |
| Pedestrian LOS score for intersection - 2034 Build Phase 2 Alt 2 | LOS             | B    | B    | A    | B    |
| Pedestrian LOS score for intersection - 2034 Build Phase 2 Alt 3 | t <sub>90</sub> | 2.20 | 2.07 | 1.34 | 1.86 |
| Pedestrian LOS score for intersection - 2034 Build Phase 2 Alt 4 | LOS             | B    | B    | A    | B    |
| Pedestrian LOS score for intersection - 2034 Build Phase 3 Alt 1 | t <sub>90</sub> | 2.20 | 2.07 | 1.34 | 1.86 |
| Pedestrian LOS score for intersection - 2034 Build Phase 3 Alt 2 | LOS             | B    | B    | A    | B    |
| Pedestrian LOS score for intersection - 2034 Build Phase 3 Alt 3 | t <sub>90</sub> | 2.20 | 2.07 | 1.34 | 1.86 |
| Pedestrian LOS score for intersection - 2034 Build Phase 3 Alt 4 | LOS             | B    | B    | A    | B    |

| Stallings Road and Monroe Expressway WB Ramp                                                      |                        |                      |                      |                      |        |
|---------------------------------------------------------------------------------------------------|------------------------|----------------------|----------------------|----------------------|--------|
| AM PEAK HOUR                                                                                      |                        |                      |                      |                      |        |
|                                                                                                   | Crossing NB Approach   | Crossing SB Approach | Crossing EB Approach | Crossing WB Approach |        |
|                                                                                                   | Major                  | Major                | Minor                | Minor                |        |
| Ped Phase                                                                                         | N                      | N                    |                      |                      |        |
| Speed Limit (85 <sup>th</sup> Percentile Speed)                                                   | 35                     | 45                   | 45                   | 45                   |        |
| Cycle Length (sec)                                                                                | C                      | 120                  |                      |                      |        |
| Duration of phase for through movement                                                            | D <sub>THRU</sub>      | 35                   | 25                   | 25                   |        |
| Yellow time for through movement                                                                  | Y <sub>THRU</sub>      | 4.5                  | 4.5                  | 4.4                  | 4.3    |
| Red time for through movement                                                                     | R <sub>THRU</sub>      | 2.4                  | 2.4                  | 1.0                  | 2.6    |
| Walk Time                                                                                         | Walk <sub>WB</sub>     | 0                    | 0                    | 7                    | 7      |
| Crosswalk Length                                                                                  | L <sub>W</sub>         | 96                   | 72                   | 24                   | 26     |
| Number of lanes crossed                                                                           | N <sub>L</sub>         | 8                    | 6                    | 2                    | 3      |
| Number of right-turn channelizing islands                                                         | R <sub>CHIS</sub>      | 0                    | 0                    | 2                    | 0      |
| Walking Speed (ft/sec)                                                                            | S <sub>P</sub>         | 3.5                  |                      |                      |        |
| flow rate of peds arriving at the corner after crossing minor street (ped/hr)                     | V <sub>MA</sub>        | 0                    | 0                    | 0                    | 0      |
| flow rate of peds arriving at the corner to cross minor street (ped/hr)                           | V <sub>MA</sub>        | 0                    | 0                    | 0                    | 0      |
| flow rate of peds arriving at the corner after crossing major street (ped/hr)                     | V <sub>MA</sub>        | 0                    | 0                    | 0                    | 0      |
| flow rate of peds arriving at the corner to cross major street (ped/hr)                           | V <sub>MA</sub>        | 0                    | 0                    | 0                    | 0      |
| flow rate of peds traveling through the corner from Sidewalk A to Sidewalk B or vice versa        | V <sub>MA</sub>        | 0                    | 0                    | 0                    | 0      |
| Count of vehicles traveling on major/minor street during 15 min period - Existing                 | P <sub>15min</sub>     | 31.28                | 29.93                | 80.00                | 27.42  |
| Count of vehicles traveling on major/minor street during 15 min period - 2022 Background          | P <sub>15min</sub>     | 50.50                | 46.54                | 117.38               | 46.67  |
| Count of vehicles traveling on major/minor street during 15 min period - 2022 Build               | P <sub>15min</sub>     | 52.50                | 50.88                | 121.13               | 47.50  |
| Count of vehicles traveling on major/minor street during 15 min period - 2027 Build               | P <sub>15min</sub>     | 59.97                | 57.83                | 140.13               | 54.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2021 Build Phase 1 Alt 3 | P <sub>15min</sub>     | 0.00                 | 0.00                 | 0.00                 | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2021 Build Phase 1 Alt 4 | P <sub>15min</sub>     | 0.00                 | 0.00                 | 0.00                 | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2024 Background          | P <sub>15min</sub>     | 0.00                 | 0.00                 | 0.00                 | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2024 Background U-4714   | P <sub>15min</sub>     | 0.00                 | 0.00                 | 0.00                 | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2024 Build Phase 2 Alt 1 | P <sub>15min</sub>     | 0.00                 | 0.00                 | 0.00                 | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2024 Build Phase 2 Alt 2 | P <sub>15min</sub>     | 0.00                 | 0.00                 | 0.00                 | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2024 Build Phase 2 Alt 3 | P <sub>15min</sub>     | 0.00                 | 0.00                 | 0.00                 | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2029 Background          | P <sub>15min</sub>     | 0.00                 | 0.00                 | 0.00                 | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2029 Background U-4714   | P <sub>15min</sub>     | 0.00                 | 0.00                 | 0.00                 | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2034 Background          | P <sub>15min</sub>     | 0.00                 | 0.00                 | 0.00                 | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2034 Background U-4714   | P <sub>15min</sub>     | 0.00                 | 0.00                 | 0.00                 | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2029 Build Phase 3 Alt 1 | P <sub>15min</sub>     | 0.00                 | 0.00                 | 0.00                 | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2029 Build Phase 3 Alt 2 | P <sub>15min</sub>     | 0.00                 | 0.00                 | 0.00                 | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2029 Build Phase 3 Alt 3 | P <sub>15min</sub>     | 0.00                 | 0.00                 | 0.00                 | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2029 Build Phase 3 Alt 4 | P <sub>15min</sub>     | 0.00                 | 0.00                 | 0.00                 | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2034 Build Alt 1         | P <sub>15min</sub>     | 0.00                 | 0.00                 | 0.00                 | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2034 Build Alt 2         | P <sub>15min</sub>     | 0.00                 | 0.00                 | 0.00                 | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2034 Build Alt 3         | P <sub>15min</sub>     | 0.00                 | 0.00                 | 0.00                 | 0.00   |
| Count of vehicles traveling on major/minor street during 15 min period - 2034 Build Alt 4         | P <sub>15min</sub>     | 0.00                 | 0.00                 | 0.00                 | 0.00   |
| Effective walk time for through movement                                                          | Q <sub>walk,thru</sub> | 29.3                 | 29.3                 | 11                   | 11     |
| Adjustment Factors                                                                                |                        |                      |                      |                      |        |
| Pedestrian delay (sec/ped)                                                                        | d <sub>p</sub>         | 34.28                | 34.28                | 49.50                | 49.50  |
| Cross section adjustment factor                                                                   | F <sub>s</sub>         | 1.9831               | 1.7105               | 0.9725               | 1.1978 |
| Motorized vehicle volume adjustment factor - Existing                                             | F <sub>v</sub>         | 0.1721               | 0                    | 0.5846               | 0      |
| Motorized vehicle volume adjustment factor - 2022 Background                                      | F <sub>v</sub>         | 0.3969               | 0                    | 0.8535               | 0      |
| Motorized vehicle volume adjustment factor - 2022 Build                                           | F <sub>v</sub>         | 0.3969               | 0                    | 0.8535               | 0      |
| Motorized vehicle volume adjustment factor - 2027 Build                                           | F <sub>v</sub>         | 0.4381               | 0                    | 0.9958               | 0      |
| Motorized vehicle volume adjustment factor - 2021 Build Phase 1 Alt 3                             | F <sub>v</sub>         | 0                    | 0                    | 0                    | 0      |
| Motorized vehicle volume adjustment factor - 2021 Build Phase 1 Alt 4                             | F <sub>v</sub>         | 0                    | 0                    | 0                    | 0      |
| Motorized vehicle volume adjustment factor - 2024 Background                                      | F <sub>v</sub>         | 0                    | 0                    | 0                    | 0      |
| Motorized vehicle volume adjustment factor - 2024 Background U-4714                               | F <sub>v</sub>         | 0                    | 0                    | 0                    | 0      |
| Motorized vehicle volume adjustment factor - 2024 Build Phase 2 Alt 1                             | F <sub>v</sub>         | 0                    | 0                    | 0                    | 0      |
| Motorized vehicle volume adjustment factor - 2024 Build Phase 2 Alt 2                             | F <sub>v</sub>         | 0                    | 0                    | 0                    | 0      |
| Motorized vehicle volume adjustment factor - 2024 Build Phase 2 Alt 3                             | F <sub>v</sub>         | 0                    | 0                    | 0                    | 0      |
| Motorized vehicle volume adjustment factor - 2024 Build Phase 2 Alt 4                             | F <sub>v</sub>         | 0                    | 0                    | 0                    | 0      |
| Motorized vehicle volume adjustment factor - 2029 Background                                      | F <sub>v</sub>         | 0                    | 0                    | 0                    | 0      |
| Motorized vehicle volume adjustment factor - 2029 Background U-4714                               | F <sub>v</sub>         | 0                    | 0                    | 0                    | 0      |
| Motorized vehicle volume adjustment factor - 2034 Background                                      | F <sub>v</sub>         | 0                    | 0                    | 0                    | 0      |
| Motorized vehicle volume adjustment factor - 2034 Background U-4714                               | F <sub>v</sub>         | 0                    | 0                    | 0                    | 0      |
| Motorized vehicle volume adjustment factor - 2029 Build Phase 3 Alt 1                             | F <sub>v</sub>         | 0                    | 0                    | 0                    | 0      |
| Motorized vehicle volume adjustment factor - 2029 Build Phase 3 Alt 2                             | F <sub>v</sub>         | 0                    | 0                    | 0                    | 0      |
| Motorized vehicle volume adjustment factor - 2029 Build Phase 3 Alt 3                             | F <sub>v</sub>         | 0                    | 0                    | 0                    | 0      |
| Motorized vehicle volume adjustment factor - 2029 Build Phase 3 Alt 4                             | F <sub>v</sub>         | 0                    | 0                    | 0                    | 0      |
| Motorized vehicle volume adjustment factor - 2034 Build Alt 1                                     | F <sub>v</sub>         | 0                    | 0                    | 0                    | 0      |
| Motorized vehicle volume adjustment factor - 2034 Build Alt 2                                     | F <sub>v</sub>         | 0                    | 0                    | 0                    | 0      |
| Motorized vehicle volume adjustment factor - 2034 Build Alt 3                                     | F <sub>v</sub>         | 0                    | 0                    | 0                    | 0      |
| Motorized vehicle volume adjustment factor - 2034 Build Alt 4                                     | F <sub>v</sub>         | 0                    | 0                    | 0                    | 0      |
| Motorized vehicle speed adjustment factor - Existing                                              | F <sub>s</sub>         | 0.14                 | 0.17                 | 0.47                 | 0.16   |
| Motorized vehicle speed adjustment factor - 2021 Build Phase 1 Alt 2                              | F <sub>s</sub>         | 0.27                 | 0.34                 | 0.82                 | 0.32   |
| Motorized vehicle speed adjustment factor - 2021 Build Phase 1 Alt 3                              | F <sub>s</sub>         | 0.24                 | 0.3                  | 0.71                 | 0.28   |
| Motorized vehicle speed adjustment factor - 2021 Build Phase 1 Alt 4                              | F <sub>s</sub>         | 0.00                 | 0                    | 0                    | 0      |
| Motorized vehicle speed adjustment factor - 2024 Background                                       | F <sub>s</sub>         | 0.00                 | 0                    | 0                    | 0      |
| Motorized vehicle speed adjustment factor - 2024 Background U-4714                                | F <sub>s</sub>         | 0.00                 | 0                    | 0                    | 0      |
| Motorized vehicle speed adjustment factor - 2024 Build Phase 2 Alt 1                              | F <sub>s</sub>         | 0.00                 | 0                    | 0                    | 0      |
| Motorized vehicle speed adjustment factor - 2024 Build Phase 2 Alt 2                              | F <sub>s</sub>         | 0.00                 | 0                    | 0                    | 0      |
| Motorized vehicle speed adjustment factor - 2024 Build Phase 2 Alt 3                              | F <sub>s</sub>         | 0.00                 | 0                    | 0                    | 0      |
| Motorized vehicle speed adjustment factor - 2024 Build Phase 2 Alt 4                              | F <sub>s</sub>         | 0.00                 | 0                    | 0                    | 0      |
| Motorized vehicle speed adjustment factor - 2029 Background                                       | F <sub>s</sub>         | 0.00                 | 0                    | 0                    | 0      |
| Motorized vehicle speed adjustment factor - 2029 Background U-4714                                | F <sub>s</sub>         | 0.00                 | 0                    | 0                    | 0      |
| Motorized vehicle speed adjustment factor - 2034 Background                                       | F <sub>s</sub>         | 0.00                 | 0                    | 0                    | 0      |
| Motorized vehicle speed adjustment factor - 2034 Background U-4714                                | F <sub>s</sub>         | 0.00                 | 0                    | 0                    | 0      |
| Motorized vehicle speed adjustment factor - 2029 Build Phase 3 Alt 1                              | F <sub>s</sub>         | 0.00                 | 0                    | 0                    | 0      |
| Motorized vehicle speed adjustment factor - 2029 Build Phase 3 Alt 2                              | F <sub>s</sub>         | 0.00                 | 0                    | 0                    | 0      |
| Motorized vehicle speed adjustment factor - 2029 Build Phase 3 Alt 3                              | F <sub>s</sub>         | 0.00                 | 0                    | 0                    | 0      |
| Motorized vehicle speed adjustment factor - 2029 Build Phase 3 Alt 4                              | F <sub>s</sub>         | 0.00                 | 0                    | 0                    | 0      |
| Motorized vehicle speed adjustment factor - 2034 Build Phase 3 Alt 1                              | F <sub>s</sub>         | 0.00                 | 0                    | 0                    | 0      |
| Motorized vehicle speed adjustment factor - 2034 Build Phase 3 Alt 2                              | F <sub>s</sub>         | 0.00                 | 0                    | 0                    | 0      |
| Motorized vehicle speed adjustment factor - 2034 Build Phase 3 Alt 3                              | F <sub>s</sub>         | 0.00                 | 0                    | 0                    | 0      |
| Motorized vehicle speed adjustment factor - 2034 Build Phase 3 Alt 4                              | F <sub>s</sub>         | 0.00                 | 0                    | 0                    | 0      |
| Pedestrian delay adjustment factor                                                                | F <sub>d</sub>         | 0.16                 | 0.2                  | 0.06                 | 0.06   |

|                 | NBL | NBT | NBR | NBU | NBL | SBT | SBR | SBU | EBL | EBT | EBR | EBU | WBL | WBT | WBR | WBU |
|-----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 2020 Existing   | 418 | 210 | 0   | 0   | 0   | 252 | 128 | 0   | 0   | 0   | 0   | 0   | 121 | 94  | 114 | 0   |
| 2022 Background | 600 | 310 | 0   | 0   | 0   | 427 | 219 | 0   | 0   | 0   | 0   | 0   | 279 | 120 | 161 | 0   |
| 2022 Build      | 600 | 326 | 0   | 0   | 0   | 475 | 249 | 0   | 0   | 0   | 0   | 0   | 279 | 120 | 171 | 0   |
| 2022 Build      | 700 | 376 | 0   | 0   | 0   | 535 | 279 | 0   | 0   | 0   | 0   | 0   | 308 | 142 | 198 | 0   |

| LOS | LOS Score | From HCM 6 |
|-----|-----------|------------|
| A   | 1.50      |            |
| B   | 2.50      |            |
| C   | 3.50      |            |
| D   | 4.50      |            |
| E   | 5.50      |            |
| F   | >5.50     |            |



| Results                                                          |                 |      |      |      |      |
|------------------------------------------------------------------|-----------------|------|------|------|------|
| Pedestrian LOS score for intersection - Existing                 | t <sub>90</sub> | 3.05 | 2.68 | 2.70 | 2.02 |
| Pedestrian LOS score for intersection - 2022 Background          | LOS             | C    | C    | C    | B    |
| Pedestrian LOS score for intersection - 2022 Build               | t <sub>90</sub> | 3.37 | 2.78 | 3.18 | 2.13 |
| Pedestrian LOS score for intersection - 2027 Build               | LOS             | C    | C    | C    | B    |
| Pedestrian LOS score for intersection - 2021 Build Phase 1 Alt 3 | t <sub>90</sub> | 3.38 | 2.81 | 3.20 | 2.14 |
| Pedestrian LOS score for intersection - 2021 Build Phase 1 Alt 4 | LOS             | C    | C    | C    | B    |
| Pedestrian LOS score for intersection - 2024 Background          | t <sub>90</sub> | 3.46 | 2.85 | 3.45 | 2.18 |
| Pedestrian LOS score for intersection - 2024 Background U-4714   | LOS             | C    | C    | C    | B    |
| Pedestrian LOS score for intersection - 2029 Background          | t <sub>90</sub> | 2.74 | 2.51 | 1.63 | 1.86 |
| Pedestrian LOS score for intersection - 2029 Background U-4714   | LOS             | C    | C    | B    | B    |
| Pedestrian LOS score for intersection - 2034 Background          | t <sub>90</sub> | 2.74 | 2.51 | 1.63 | 1.86 |
| Pedestrian LOS score for intersection - 2034 Background U-4714   | LOS             | C    | C    | B    | B    |
| Pedestrian LOS score for intersection - 2029 Build Phase 3 Alt 1 | t <sub>90</sub> | 2.74 | 2.51 | 1.63 | 1.86 |
| Pedestrian LOS score for intersection - 2029 Build Phase 3 Alt 2 | LOS             | C    | C    | B    | B    |
| Pedestrian LOS score for intersection - 2029 Build Phase 3 Alt 3 | t <sub>90</sub> | 2.74 | 2.51 | 1.63 | 1.86 |
| Pedestrian LOS score for intersection - 2029 Build Phase 3 Alt 4 | LOS             | C    | C    | B    | B    |
| Pedestrian LOS score for intersection - 2034 Build Phase 3 Alt 1 | t <sub>90</sub> | 2.74 | 2.51 | 1.63 | 1.86 |
| Pedestrian LOS score for intersection - 2034 Build Phase 3 Alt 2 | LOS             | C    | C    | B    | B    |
| Pedestrian LOS score for intersection - 2034 Build Phase 3 Alt 3 | t <sub>90</sub> | 2.74 | 2.51 | 1.63 | 1.86 |
| Pedestrian LOS score for intersection - 2034 Build Phase 3 Alt 4 | LOS             | C    | C    | B    | B    |
| Pedestrian LOS score for intersection - 2029 Build Phase 2 Alt 1 | t <sub>90</sub> | 2.74 | 2.51 | 1.63 | 1.86 |
| Pedestrian LOS score for intersection - 2029 Build Phase 2 Alt 2 | LOS             | C    | C    | B    | B    |
| Pedestrian LOS score for intersection - 2029 Build Phase 2 Alt 3 | t <sub>90</sub> | 2.74 | 2.51 | 1.63 | 1.86 |
| Pedestrian LOS score for intersection - 2029 Build Phase 2 Alt 4 | LOS             | C    | C    | B    | B    |
| Pedestrian LOS score for intersection - 2034 Build Phase 2 Alt 1 | t <sub>90</sub> | 2.74 | 2.51 | 1.63 | 1.86 |
| Pedestrian LOS score for intersection - 2034 Build Phase 2 Alt 2 | LOS             | C    | C    | B    | B    |
| Pedestrian LOS score for intersection - 2034 Build Phase 2 Alt 3 | t <sub>90</sub> | 2.74 | 2.51 | 1.63 | 1.86 |
| Pedestrian LOS score for intersection - 2034 Build Phase 2 Alt 4 | LOS             | C    | C    | B    | B    |



Stallings Road and Monroe Expressway WB Ramp

| PM PEAK HOUR                                    |             |                      |                      |                      |
|-------------------------------------------------|-------------|----------------------|----------------------|----------------------|
|                                                 |             | Crossing NB Approach | Crossing SB Approach | Crossing EB Approach |
|                                                 |             | Major                | Major                | Minor                |
| Ped Phase                                       |             | N                    | N                    | Minor                |
| Speed Limit (85 <sup>th</sup> Percentile Speed) | $R_{SL,PM}$ | 35                   | 45                   | 45                   |
| Cycle Length (sec)                              | C           | 120                  |                      |                      |
| Duration of phase for through movement          | $D_{T,PM}$  | 31                   | 44                   | 31                   |
| Yellow time for minor-street through movement   | $Y_{T,PM}$  | 4.3                  | 4.3                  | 4.4                  |
| Red time for minor-street through movement      | $R_{T,PM}$  | 2.4                  | 2.4                  | 1.0                  |
| Walk Time                                       | $W_{T,PM}$  | 0                    | 0                    | 7                    |
| Crosswalk Length                                | $L_{T,PM}$  | 96                   | 72                   | 26                   |
| Number of lanes crossed                         | $N_{L,PM}$  | 8                    | 6                    | 2                    |
| Number of right-turn channelizing islands       | $R_{CI,PM}$ | 0                    | 0                    | 0                    |
| Walking Speed (ft/sec)                          | $S_p$       | 3.5                  |                      |                      |

flow rate of peds arriving at the corner after crossing minor street (ped/hr)

$V_{a,PM}$  0 0 0 0

flow rate of peds arriving at the corner to cross minor street (ped/hr)

$V_{a,PM}$  0 0 0 0

flow rate of peds arriving at the corner after crossing major street (ped/hr)

$V_{a,PM}$  0 0 0 0

flow rate of peds arriving at the corner to cross major street (ped/hr)

$V_{a,PM}$  0 0 0 0

flow rate of peds traveling through the corner from Sidewalk A to Sidewalk B or vice versa

$V_{a,PM}$  0 0 0 0

|                                                                                                   |            |       |       |        |       |
|---------------------------------------------------------------------------------------------------|------------|-------|-------|--------|-------|
| Count of vehicles traveling on major/minor street during 15 min period - Existing                 | $P_{T,PM}$ | 33.09 | 32.93 | 79.63  | 26.00 |
| Count of vehicles traveling on major/minor street during 15 min period - 2022 Background          | $P_{T,PM}$ | 55.78 | 52.79 | 124.38 | 45.08 |
| Count of vehicles traveling on major/minor street during 15 min period - 2022 Build               | $P_{T,PM}$ | 58.50 | 58.71 | 127.00 | 47.92 |
| Count of vehicles traveling on major/minor street during 15 min period - 2027 Build               | $P_{T,PM}$ | 66.38 | 66.38 | 145.88 | 54.17 |
| Count of vehicles traveling on major/minor street during 15 min period - 2021 Build Phase 1 Alt 3 | $P_{T,PM}$ | 0.00  | 0.00  | 0.00   | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2021 Build Phase 1 Alt 4 | $P_{T,PM}$ | 0.00  | 0.00  | 0.00   | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2024 Background          | $P_{T,PM}$ | 0.00  | 0.00  | 0.00   | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2024 Background U-4714   | $P_{T,PM}$ | 0.00  | 0.00  | 0.00   | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2024 Build Phase 2 Alt 1 | $P_{T,PM}$ | 0.00  | 0.00  | 0.00   | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2024 Build Phase 2 Alt 2 | $P_{T,PM}$ | 0.00  | 0.00  | 0.00   | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2024 Build Phase 2 Alt 3 | $P_{T,PM}$ | 0.00  | 0.00  | 0.00   | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2029 Background          | $P_{T,PM}$ | 0.00  | 0.00  | 0.00   | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2029 Background U-4714   | $P_{T,PM}$ | 0.00  | 0.00  | 0.00   | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2034 Background          | $P_{T,PM}$ | 0.00  | 0.00  | 0.00   | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2034 Background U-4714   | $P_{T,PM}$ | 0.00  | 0.00  | 0.00   | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2029 Build Phase 3 Alt 1 | $P_{T,PM}$ | 0.00  | 0.00  | 0.00   | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2029 Build Phase 3 Alt 2 | $P_{T,PM}$ | 0.00  | 0.00  | 0.00   | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2029 Build Phase 3 Alt 3 | $P_{T,PM}$ | 0.00  | 0.00  | 0.00   | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2029 Build Phase 3 Alt 4 | $P_{T,PM}$ | 0.00  | 0.00  | 0.00   | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2034 Build Alt 1         | $P_{T,PM}$ | 0.00  | 0.00  | 0.00   | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2034 Build Alt 2         | $P_{T,PM}$ | 0.00  | 0.00  | 0.00   | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2034 Build Alt 3         | $P_{T,PM}$ | 0.00  | 0.00  | 0.00   | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2034 Build Alt 4         | $P_{T,PM}$ | 0.00  | 0.00  | 0.00   | 0.00  |

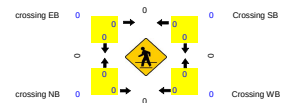
Effective walk time for through movement  $Q_{walk,PM}$  24.3 37.3 11 11

Adjustment Factors

|                                                                       |          |        |        |        |        |
|-----------------------------------------------------------------------|----------|--------|--------|--------|--------|
| Pedestrian delay (sec/ped)                                            | $d_p$    | 38.16  | 28.50  | 49.50  | 49.50  |
| Cross section adjustment factor                                       | $F_{cs}$ | 1.9831 | 1.7105 | 0.9725 | 1.1978 |
| Motorized vehicle volume adjustment factor - Existing                 | $F_v$    | 0.1579 | 0      | 0.5775 | 0      |
| Motorized vehicle volume adjustment factor - 2022 Background          | $F_v$    | 0.3357 | 0      | 0.946  | 0      |
| Motorized vehicle volume adjustment factor - 2022 Build               | $F_v$    | 0.3557 | 0      | 0.946  | 0      |
| Motorized vehicle volume adjustment factor - 2027 Build               | $F_v$    | 0.3741 | 0      | 1.0825 | 0      |
| Motorized vehicle volume adjustment factor - 2021 Build Phase 1 Alt 3 | $F_v$    | 0      | 0      | 0      | 0      |
| Motorized vehicle volume adjustment factor - 2021 Build Phase 1 Alt 4 | $F_v$    | 0      | 0      | 0      | 0      |
| Motorized vehicle volume adjustment factor - 2024 Background          | $F_v$    | 0      | 0      | 0      | 0      |
| Motorized vehicle volume adjustment factor - 2024 Background U-4714   | $F_v$    | 0      | 0      | 0      | 0      |
| Motorized vehicle volume adjustment factor - 2024 Build Phase 2 Alt 1 | $F_v$    | 0      | 0      | 0      | 0      |
| Motorized vehicle volume adjustment factor - 2024 Build Phase 2 Alt 2 | $F_v$    | 0      | 0      | 0      | 0      |
| Motorized vehicle volume adjustment factor - 2024 Build Phase 2 Alt 3 | $F_v$    | 0      | 0      | 0      | 0      |
| Motorized vehicle volume adjustment factor - 2024 Build Phase 2 Alt 4 | $F_v$    | 0      | 0      | 0      | 0      |
| Motorized vehicle volume adjustment factor - 2029 Background          | $F_v$    | 0      | 0      | 0      | 0      |
| Motorized vehicle volume adjustment factor - 2029 Background U-4714   | $F_v$    | 0      | 0      | 0      | 0      |
| Motorized vehicle volume adjustment factor - 2034 Background          | $F_v$    | 0      | 0      | 0      | 0      |
| Motorized vehicle volume adjustment factor - 2034 Background U-4714   | $F_v$    | 0      | 0      | 0      | 0      |
| Motorized vehicle volume adjustment factor - 2029 Build Phase 3 Alt 1 | $F_v$    | 0      | 0      | 0      | 0      |
| Motorized vehicle volume adjustment factor - 2029 Build Phase 3 Alt 2 | $F_v$    | 0      | 0      | 0      | 0      |
| Motorized vehicle volume adjustment factor - 2029 Build Phase 3 Alt 3 | $F_v$    | 0      | 0      | 0      | 0      |
| Motorized vehicle volume adjustment factor - 2029 Build Phase 3 Alt 4 | $F_v$    | 0      | 0      | 0      | 0      |
| Motorized vehicle volume adjustment factor - 2034 Build Alt 1         | $F_v$    | 0      | 0      | 0      | 0      |
| Motorized vehicle volume adjustment factor - 2034 Build Alt 2         | $F_v$    | 0      | 0      | 0      | 0      |
| Motorized vehicle volume adjustment factor - 2034 Build Alt 3         | $F_v$    | 0      | 0      | 0      | 0      |
| Motorized vehicle volume adjustment factor - 2034 Build Alt 4         | $F_v$    | 0      | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - Existing                  | $F_s$    | 0.15   | 0.19   | 0.47   | 0.15   |
| Motorized vehicle speed adjustment factor - 2021 Background           | $F_s$    | 0.25   | 0.31   | 0.73   | 0.26   |
| Motorized vehicle speed adjustment factor - 2021 Build Phase 1 Alt 1  | $F_s$    | 0.27   | 0.34   | 0.74   | 0.28   |
| Motorized vehicle speed adjustment factor - 2021 Build Phase 1 Alt 2  | $F_s$    | 0.30   | 0.39   | 0.85   | 0.32   |
| Motorized vehicle speed adjustment factor - 2021 Build Phase 1 Alt 3  | $F_s$    | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2021 Build Phase 1 Alt 4  | $F_s$    | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2024 Background           | $F_s$    | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2024 Background U-4714    | $F_s$    | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2024 Build Phase 2 Alt 1  | $F_s$    | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2024 Build Phase 2 Alt 2  | $F_s$    | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2024 Build Phase 2 Alt 3  | $F_s$    | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2024 Build Phase 2 Alt 4  | $F_s$    | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2029 Background           | $F_s$    | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2029 Background U-4714    | $F_s$    | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2034 Background           | $F_s$    | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2034 Background U-4714    | $F_s$    | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2029 Build Phase 3 Alt 1  | $F_s$    | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2029 Build Phase 3 Alt 2  | $F_s$    | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2029 Build Phase 3 Alt 3  | $F_s$    | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2029 Build Phase 3 Alt 4  | $F_s$    | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2034 Build Phase 3 Alt 1  | $F_s$    | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2034 Build Phase 3 Alt 2  | $F_s$    | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2034 Build Phase 3 Alt 3  | $F_s$    | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2034 Build Phase 3 Alt 4  | $F_s$    | 0.00   | 0      | 0      | 0      |
| Pedestrian delay adjustment factor                                    | $F_d$    | 0.17   | 0.17   | 0.06   | 0.06   |

|                 | NBL | NBT | NBR | NBU | NBL | SBT | SBR | SBU | EBL | EBT | EBR | EBU | WBL | WBT | WBR | WBU |
|-----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 2020 Existing   | 406 | 307 | 0   | 0   | 0   | 235 | 132 | 0   | 0   | 0   | 0   | 0   | 111 | 99  | 102 | 0   |
| 2022 Background | 665 | 513 | 0   | 0   | 0   | 371 | 204 | 0   | 0   | 0   | 0   | 0   | 236 | 126 | 179 | 0   |
| 2022 Build      | 665 | 568 | 0   | 0   | 0   | 403 | 225 | 0   | 0   | 0   | 0   | 0   | 228 | 126 | 213 | 0   |
| 2022 Build      | 761 | 641 | 0   | 0   | 0   | 469 | 256 | 0   | 0   | 0   | 0   | 0   | 263 | 150 | 237 | 0   |

| LOS | LOS Score | From HCM 6 |
|-----|-----------|------------|
| A   | 1.50      |            |
| B   | 2.50      |            |
| C   | 3.50      |            |
| D   | 4.50      |            |
| E   | 5.50      |            |
| F   | >5.50     |            |



| Results                                                          |            |      |      |      |      |
|------------------------------------------------------------------|------------|------|------|------|------|
| Pedestrian LOS score for intersection - Existing                 | $t_{p,PM}$ | 3.06 | 2.67 | 2.68 | 2.01 |
| Pedestrian LOS score for intersection - 2022 Background          | $t_{p,PM}$ | 3.34 | 2.79 | 3.31 | 2.12 |
| Pedestrian LOS score for intersection - 2022 Build               | $t_{p,PM}$ | 3.36 | 2.82 | 3.32 | 2.14 |
| Pedestrian LOS score for intersection - 2024 Background          | $t_{p,PM}$ | 3.42 | 2.87 | 3.36 | 2.18 |
| Pedestrian LOS score for intersection - 2021 Build Phase 1 Alt 3 | $t_{p,PM}$ | 2.75 | 2.48 | 1.63 | 1.86 |
| Pedestrian LOS score for intersection - 2021 Build Phase 1 Alt 4 | $t_{p,PM}$ | 2.75 | 2.48 | 1.63 | 1.86 |
| Pedestrian LOS score for intersection - 2024 Background          | $t_{p,PM}$ | 2.75 | 2.48 | 1.63 | 1.86 |
| Pedestrian LOS score for intersection - 2024 Background U-4714   | $t_{p,PM}$ | 2.75 | 2.48 | 1.63 | 1.86 |
| Pedestrian LOS score for intersection - 2029 Background          | $t_{p,PM}$ | 2.75 | 2.48 | 1.63 | 1.86 |
| Pedestrian LOS score for intersection - 2029 Background U-4714   | $t_{p,PM}$ | 2.75 | 2.48 | 1.63 | 1.86 |
| Pedestrian LOS score for intersection - 2034 Background          | $t_{p,PM}$ | 2.75 | 2.48 | 1.63 | 1.86 |
| Pedestrian LOS score for intersection - 2034 Background U-4714   | $t_{p,PM}$ | 2.75 | 2.48 | 1.63 | 1.86 |
| Pedestrian LOS score for intersection - 2029 Build Phase 2 Alt 1 | $t_{p,PM}$ | 2.75 | 2.48 | 1.63 | 1.86 |
| Pedestrian LOS score for intersection - 2029 Build Phase 2 Alt 2 | $t_{p,PM}$ | 2.75 | 2.48 | 1.63 | 1.86 |
| Pedestrian LOS score for intersection - 2029 Build Phase 2 Alt 3 | $t_{p,PM}$ | 2.75 | 2.48 | 1.63 | 1.86 |
| Pedestrian LOS score for intersection - 2029 Build Phase 2 Alt 4 | $t_{p,PM}$ | 2.75 | 2.48 | 1.63 | 1.86 |
| Pedestrian LOS score for intersection - 2034 Build Phase 2 Alt 1 | $t_{p,PM}$ | 2.75 | 2.48 | 1.63 | 1.86 |
| Pedestrian LOS score for intersection - 2034 Build Phase 2 Alt 2 | $t_{p,PM}$ | 2.75 | 2.48 | 1.63 | 1.86 |
| Pedestrian LOS score for intersection - 2034 Build Phase 2 Alt 3 | $t_{p,PM}$ | 2.75 | 2.48 | 1.63 | 1.86 |
| Pedestrian LOS score for intersection - 2034 Build Phase 2 Alt 4 | $t_{p,PM}$ | 2.75 | 2.48 | 1.63 | 1.86 |



Stallings Road and Morrice Expressway EB Ramp

| AM PEAK HOUR                                    |                      |                      |                      |                      |
|-------------------------------------------------|----------------------|----------------------|----------------------|----------------------|
|                                                 | Crossing NB Approach | Crossing SB Approach | Crossing EB Approach | Crossing WB Approach |
|                                                 | Major                | Major                | Minor                | Minor                |
| Ped Phase                                       | N                    | N                    |                      |                      |
| Speed Limit (85 <sup>th</sup> Percentile Speed) | 35                   | 35                   | 35                   | 35                   |
| Cycle Length (sec)                              | C                    | 120                  |                      |                      |
| Duration of phase for through movement          | D <sub>THRU</sub>    | 27                   | 27                   | 33                   |
| Yellow time for through movement                | Y <sub>THRU</sub>    | 3.5                  | 3.5                  | 4.4                  |
| Red time for through movement                   | R <sub>THRU</sub>    | 2.5                  | 2.5                  | 1.2                  |
| Walk Time                                       | Walk <sub>min</sub>  | 0                    | 0                    | 7                    |
| Crosswalk Length                                | L <sub>c</sub>       | 35                   | 45                   | 35                   |
| Number of lanes crossed                         | N <sub>c</sub>       | 3                    | 4                    | 3                    |
| Number of right-turn channelizing islands       | N <sub>chisld</sub>  | 0                    | 0                    | 2                    |
| Walking Speed (ft/sec)                          | S <sub>p</sub>       | 3.5                  |                      |                      |

flow rate of peds arriving at the corner after crossing minor street (ped/hr)

V<sub>pa</sub> 0 0 0 0

flow rate of peds arriving at the corner to cross minor street (ped/hr)

V<sub>pm</sub> 0 0 0 0

flow rate of peds arriving at the corner after crossing major street (ped/hr)

V<sub>ma</sub> 1 0 0 0

flow rate of peds arriving at the corner to cross major street (ped/hr)

V<sub>mb</sub> 1 0 0 1

flow rate of peds traveling through the corner from Sidewalk A to Sidewalk B or vice versa

V<sub>ap</sub> 0 0 0 0

|                                                                                                   |                    |        |        |       |       |
|---------------------------------------------------------------------------------------------------|--------------------|--------|--------|-------|-------|
| Count of vehicles traveling on major/minor street during 15 min period - Existing                 | P <sub>15min</sub> | 87.42  | 62.56  | 41.25 | 27.63 |
| Count of vehicles traveling on major/minor street during 15 min period - 2022 Background          | P <sub>15min</sub> | 142.00 | 101.00 | 65.00 | 49.75 |
| Count of vehicles traveling on major/minor street during 15 min period - 2022 Build               | P <sub>15min</sub> | 144.00 | 105.00 | 65.83 | 53.50 |
| Count of vehicles traveling on major/minor street during 15 min period - 2027 Build               | P <sub>15min</sub> | 164.75 | 119.94 | 75.75 | 60.13 |
| Count of vehicles traveling on major/minor street during 15 min period - 2021 Build Phase 1 Alt 3 | P <sub>15min</sub> | 0.00   | 0.00   | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2021 Build Phase 1 Alt 4 | P <sub>15min</sub> | 0.00   | 0.00   | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2024 Background          | P <sub>15min</sub> | 0.00   | 0.00   | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2024 Background U-4714   | P <sub>15min</sub> | 0.00   | 0.00   | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2024 Build Phase 2 Alt 1 | P <sub>15min</sub> | 0.00   | 0.00   | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2024 Build Phase 2 Alt 2 | P <sub>15min</sub> | 0.00   | 0.00   | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2024 Build Phase 2 Alt 3 | P <sub>15min</sub> | 0.00   | 0.00   | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2029 Background          | P <sub>15min</sub> | 0.00   | 0.00   | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2029 Background U-4714   | P <sub>15min</sub> | 0.00   | 0.00   | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2034 Background          | P <sub>15min</sub> | 0.00   | 0.00   | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2034 Background U-4714   | P <sub>15min</sub> | 0.00   | 0.00   | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2029 Build Phase 3 Alt 1 | P <sub>15min</sub> | 0.00   | 0.00   | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2029 Build Phase 3 Alt 2 | P <sub>15min</sub> | 0.00   | 0.00   | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2029 Build Phase 3 Alt 3 | P <sub>15min</sub> | 0.00   | 0.00   | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2029 Build Phase 3 Alt 4 | P <sub>15min</sub> | 0.00   | 0.00   | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2034 Build Alt 1         | P <sub>15min</sub> | 0.00   | 0.00   | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2034 Build Alt 2         | P <sub>15min</sub> | 0.00   | 0.00   | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2034 Build Alt 3         | P <sub>15min</sub> | 0.00   | 0.00   | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2034 Build Alt 4         | P <sub>15min</sub> | 0.00   | 0.00   | 0.00  | 0.00  |

Effective walk time for through movement

Q<sub>walk,eff,thru</sub> 20.6 20.6 11 11

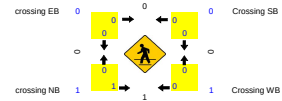
Adjustment Factors

|                                 |                |        |        |        |        |
|---------------------------------|----------------|--------|--------|--------|--------|
| Pedestrian delay (sec/ped)      | d <sub>p</sub> | 41.17  | 41.17  | 49.50  | 49.50  |
| Cross section adjustment factor | F <sub>p</sub> | 1.1978 | 1.3887 | 1.1978 | 0.9725 |

|                                                                       |                |      |        |      |        |
|-----------------------------------------------------------------------|----------------|------|--------|------|--------|
| Motorized vehicle volume adjustment factor - Existing                 | F <sub>v</sub> | 0    | 0.2162 | 0    | 0.1423 |
| Motorized vehicle volume adjustment factor - 2022 Background          | F <sub>v</sub> | 0    | 0.2973 | 0    | 0.2447 |
| Motorized vehicle volume adjustment factor - 2022 Build               | F <sub>v</sub> | 0    | 0.3115 | 0    | 0.2973 |
| Motorized vehicle volume adjustment factor - 2027 Build               | F <sub>v</sub> | 0    | 0.3642 | 0    | 0.3215 |
| Motorized vehicle volume adjustment factor - 2021 Build Phase 1 Alt 3 | F <sub>v</sub> | 0    | 0      | 0    | 0      |
| Motorized vehicle volume adjustment factor - 2021 Build Phase 1 Alt 4 | F <sub>v</sub> | 0    | 0      | 0    | 0      |
| Motorized vehicle volume adjustment factor - 2024 Background          | F <sub>v</sub> | 0    | 0      | 0    | 0      |
| Motorized vehicle volume adjustment factor - 2024 Background U-4714   | F <sub>v</sub> | 0    | 0      | 0    | 0      |
| Motorized vehicle volume adjustment factor - 2024 Build Phase 2 Alt 1 | F <sub>v</sub> | 0    | 0      | 0    | 0      |
| Motorized vehicle volume adjustment factor - 2024 Build Phase 2 Alt 2 | F <sub>v</sub> | 0    | 0      | 0    | 0      |
| Motorized vehicle volume adjustment factor - 2024 Build Phase 2 Alt 3 | F <sub>v</sub> | 0    | 0      | 0    | 0      |
| Motorized vehicle volume adjustment factor - 2024 Build Phase 2 Alt 4 | F <sub>v</sub> | 0    | 0      | 0    | 0      |
| Motorized vehicle volume adjustment factor - 2029 Background          | F <sub>v</sub> | 0    | 0      | 0    | 0      |
| Motorized vehicle volume adjustment factor - 2029 Background U-4714   | F <sub>v</sub> | 0    | 0      | 0    | 0      |
| Motorized vehicle volume adjustment factor - 2034 Background          | F <sub>v</sub> | 0    | 0      | 0    | 0      |
| Motorized vehicle volume adjustment factor - 2034 Background U-4714   | F <sub>v</sub> | 0    | 0      | 0    | 0      |
| Motorized vehicle volume adjustment factor - 2029 Build Phase 3 Alt 1 | F <sub>v</sub> | 0    | 0      | 0    | 0      |
| Motorized vehicle volume adjustment factor - 2029 Build Phase 3 Alt 2 | F <sub>v</sub> | 0    | 0      | 0    | 0      |
| Motorized vehicle volume adjustment factor - 2029 Build Phase 3 Alt 3 | F <sub>v</sub> | 0    | 0      | 0    | 0      |
| Motorized vehicle volume adjustment factor - 2029 Build Phase 3 Alt 4 | F <sub>v</sub> | 0    | 0      | 0    | 0      |
| Motorized vehicle volume adjustment factor - 2034 Build Alt 1         | F <sub>v</sub> | 0    | 0      | 0    | 0      |
| Motorized vehicle volume adjustment factor - 2034 Build Alt 2         | F <sub>v</sub> | 0    | 0      | 0    | 0      |
| Motorized vehicle volume adjustment factor - 2034 Build Alt 3         | F <sub>v</sub> | 0    | 0      | 0    | 0      |
| Motorized vehicle volume adjustment factor - 2034 Build Alt 4         | F <sub>v</sub> | 0    | 0      | 0    | 0      |
| Motorized vehicle speed adjustment factor - Existing                  | F <sub>s</sub> | 0.40 | 0.28   | 0.19 | 0.11   |
| Motorized vehicle speed adjustment factor - 2021 Background           | F <sub>s</sub> | 0.65 | 0.46   | 0.3  | 0.19   |
| Motorized vehicle speed adjustment factor - 2021 Build Phase 1 Alt 1  | F <sub>s</sub> | 0.66 | 0.48   | 0.3  | 0.21   |
| Motorized vehicle speed adjustment factor - 2021 Build Phase 1 Alt 2  | F <sub>s</sub> | 0.75 | 0.55   | 0.34 | 0.23   |
| Motorized vehicle speed adjustment factor - 2021 Build Phase 1 Alt 3  | F <sub>s</sub> | 0.00 | 0      | 0    | 0      |
| Motorized vehicle speed adjustment factor - 2021 Build Phase 1 Alt 4  | F <sub>s</sub> | 0.00 | 0      | 0    | 0      |
| Motorized vehicle speed adjustment factor - 2024 Background           | F <sub>s</sub> | 0.00 | 0      | 0    | 0      |
| Motorized vehicle speed adjustment factor - 2024 Background U-4714    | F <sub>s</sub> | 0.00 | 0      | 0    | 0      |
| Motorized vehicle speed adjustment factor - 2024 Build Phase 2 Alt 1  | F <sub>s</sub> | 0.00 | 0      | 0    | 0      |
| Motorized vehicle speed adjustment factor - 2024 Build Phase 2 Alt 2  | F <sub>s</sub> | 0.00 | 0      | 0    | 0      |
| Motorized vehicle speed adjustment factor - 2024 Build Phase 2 Alt 3  | F <sub>s</sub> | 0.00 | 0      | 0    | 0      |
| Motorized vehicle speed adjustment factor - 2024 Build Phase 2 Alt 4  | F <sub>s</sub> | 0.00 | 0      | 0    | 0      |
| Motorized vehicle speed adjustment factor - 2029 Background           | F <sub>s</sub> | 0.00 | 0      | 0    | 0      |
| Motorized vehicle speed adjustment factor - 2029 Background U-4714    | F <sub>s</sub> | 0.00 | 0      | 0    | 0      |
| Motorized vehicle speed adjustment factor - 2034 Background           | F <sub>s</sub> | 0.00 | 0      | 0    | 0      |
| Motorized vehicle speed adjustment factor - 2034 Background U-4714    | F <sub>s</sub> | 0.00 | 0      | 0    | 0      |
| Motorized vehicle speed adjustment factor - 2029 Build Phase 3 Alt 1  | F <sub>s</sub> | 0.00 | 0      | 0    | 0      |
| Motorized vehicle speed adjustment factor - 2029 Build Phase 3 Alt 2  | F <sub>s</sub> | 0.00 | 0      | 0    | 0      |
| Motorized vehicle speed adjustment factor - 2029 Build Phase 3 Alt 3  | F <sub>s</sub> | 0.00 | 0      | 0    | 0      |
| Motorized vehicle speed adjustment factor - 2029 Build Phase 3 Alt 4  | F <sub>s</sub> | 0.00 | 0      | 0    | 0      |
| Motorized vehicle speed adjustment factor - 2034 Build Phase 3 Alt 1  | F <sub>s</sub> | 0.00 | 0      | 0    | 0      |
| Motorized vehicle speed adjustment factor - 2034 Build Phase 3 Alt 2  | F <sub>s</sub> | 0.00 | 0      | 0    | 0      |
| Motorized vehicle speed adjustment factor - 2034 Build Phase 3 Alt 3  | F <sub>s</sub> | 0.00 | 0      | 0    | 0      |
| Motorized vehicle speed adjustment factor - 2034 Build Phase 3 Alt 4  | F <sub>s</sub> | 0.00 | 0      | 0    | 0      |
| Pedestrian delay adjustment factor                                    | F <sub>d</sub> | 0.19 | 0.19   | 0.05 | 0.04   |

|                 | NBL | NBT | NBR | NBU | NBL | SBT | SBR | SBU | EBL | EBT | EBR | EBU | WBL | WBT | WBR | WBU |
|-----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 2020 Existing   | 0   | 476 | 39  | 0   | 100 | 273 | 0   | 0   | 152 | 82  | 261 | 0   | 0   | 0   | 0   | 0   |
| 2027 Background | 0   | 701 | 62  | 0   | 172 | 834 | 0   | 0   | 209 | 184 | 407 | 0   | 0   | 0   | 0   | 0   |
| 2027 Build      | 0   | 707 | 67  | 0   | 202 | 852 | 0   | 0   | 219 | 184 | 427 | 0   | 0   | 0   | 0   | 0   |
| 2032 Build      | 0   | 820 | 71  | 0   | 226 | 817 | 0   | 0   | 256 | 184 | 466 | 0   | 0   | 0   | 0   | 0   |

| LOS | LOS Score | From HCM 6 |
|-----|-----------|------------|
| A   | 1.50      |            |
| B   | 2.50      |            |
| C   | 3.50      |            |
| D   | 4.50      |            |
| E   | 5.50      |            |
| F   | >5.50     |            |



| Results                                                          |                   |      |      |      |
|------------------------------------------------------------------|-------------------|------|------|------|
| Pedestrian LOS score for intersection - Existing                 | t <sub>2000</sub> | 2.39 | 2.67 | 2.04 |
| Pedestrian LOS score for intersection - 2022 Background          | LOS               | C    | C    | B    |
| Pedestrian LOS score for intersection - 2022 Build               | t <sub>2000</sub> | 2.65 | 2.97 | 2.15 |
| Pedestrian LOS score for intersection - 2022 Build               | LOS               | C    | C    | B    |
| Pedestrian LOS score for intersection - 2024 Background          | t <sub>2000</sub> | 2.74 | 3.09 | 2.18 |
| Pedestrian LOS score for intersection - 2024 Build               | LOS               | C    | C    | B    |
| Pedestrian LOS score for intersection - 2021 Build Phase 1 Alt 3 | t <sub>2000</sub> | 1.99 | 2.18 | 1.85 |
| Pedestrian LOS score for intersection - 2021 Build Phase 1 Alt 3 | LOS               | B    | B    | B    |
| Pedestrian LOS score for intersection - 2021 Build Phase 1 Alt 4 | t <sub>2000</sub> | 1.99 | 2.18 | 1.85 |
| Pedestrian LOS score for intersection - 2021 Build Phase 1 Alt 4 | LOS               | B    | B    | B    |
| Pedestrian LOS score for intersection - 2024 Background          | t <sub>2000</sub> | 1.99 | 2.18 | 1.85 |
| Pedestrian LOS score for intersection - 2024 Background          | LOS               | B    | B    | B    |
| Pedestrian LOS score for intersection - 2024 Background U-4714   | t <sub>2000</sub> | 1.99 | 2.18 | 1.85 |
| Pedestrian LOS score for intersection - 2024 Background U-4714   | LOS               | B    | B    | B    |
| Pedestrian LOS score for intersection - 2029 Build Phase 1 Alt 1 | t <sub>2000</sub> | 1.99 | 2.18 | 1.85 |
| Pedestrian LOS score for intersection - 2029 Build Phase 1 Alt 1 | LOS               | B    | B    | B    |
| Pedestrian LOS score for intersection - 2024 Build Phase 1 Alt 2 | t <sub>2000</sub> | 1.99 | 2.18 | 1.85 |
| Pedestrian LOS score for intersection - 2024 Build Phase 1 Alt 2 | LOS               | B    | B    | B    |
| Pedestrian LOS score for intersection - 2024 Build Phase 1 Alt 3 | t <sub>2000</sub> | 1.99 | 2.18 | 1.85 |
| Pedestrian LOS score for intersection - 2024 Build Phase 1 Alt 3 | LOS               | B    | B    | B    |
| Pedestrian LOS score for intersection - 2029 Background U-4714   | t <sub>2000</sub> | 1.99 | 2.18 | 1.85 |
| Pedestrian LOS score for intersection - 2029 Background U-4714   | LOS               | B    | B    | B    |
| Pedestrian LOS score for intersection - 2029 Build Phase 2 Alt 1 | t <sub>2000</sub> | 1.99 | 2.18 | 1.85 |
| Pedestrian LOS score for intersection - 2029 Build Phase 2 Alt 1 | LOS               | B    | B    | B    |
| Pedestrian LOS score for intersection - 2029 Build Phase 2 Alt 2 | t <sub>2000</sub> | 1.99 | 2.18 | 1.85 |
| Pedestrian LOS score for intersection - 2029 Build Phase 2 Alt 2 | LOS               | B    | B    | B    |
| Pedestrian LOS score for intersection - 2029 Build Phase 2 Alt 3 | t <sub>2000</sub> | 1.99 | 2.18 | 1.85 |
| Pedestrian LOS score for intersection - 2029 Build Phase 2 Alt 3 | LOS               | B    | B    | B    |
| Pedestrian LOS score for intersection - 2029 Build Phase 2 Alt 4 | t <sub>2000</sub> | 1.99 | 2.18 | 1.85 |
| Pedestrian LOS score for intersection - 2029 Build Phase 2 Alt 4 | LOS               | B    | B    | B    |
| Pedestrian LOS score for intersection - 2034 Background          | t <sub>2000</sub> | 1.99 | 2.18 | 1.85 |
| Pedestrian LOS score for intersection - 2034 Background          | LOS               | B    | B    | B    |
| Pedestrian LOS score for intersection - 2034 Build Phase 2 Alt 1 | t <sub>2000</sub> | 1.99 | 2.18 | 1.85 |
| Pedestrian LOS score for intersection - 2034 Build Phase 2 Alt 1 | LOS               | B    | B    | B    |
| Pedestrian LOS score for intersection - 2034 Build Phase 2 Alt 2 | t <sub>2000</sub> | 1.99 | 2.18 | 1.85 |
| Pedestrian LOS score for intersection - 2034 Build Phase 2 Alt 2 | LOS               | B    | B    | B    |
| Pedestrian LOS score for intersection - 2034 Build Phase 2 Alt 3 | t <sub>2000</sub> | 1.99 | 2.18 | 1.85 |
| Pedestrian LOS score for intersection - 2034 Build Phase 2 Alt 3 | LOS               | B    | B    | B    |
| Pedestrian LOS score for intersection - 2034 Build Phase 2 Alt 4 | t <sub>2000</sub> | 1.99 | 2.18 | 1.85 |
| Pedestrian LOS score for intersection - 2034 Build Phase 2 Alt 4 | LOS               | B    | B    | B    |

Stallings Road and Morrice Expressway EB Ramp

| AM PEAK HOUR                                    |              |                      |                      |                      |
|-------------------------------------------------|--------------|----------------------|----------------------|----------------------|
|                                                 |              | Crossing NB Approach | Crossing SB Approach | Crossing EB Approach |
|                                                 |              | Major                | Major                | Minor                |
| Ped Phase                                       |              | N                    | N                    | Minor                |
| Speed Limit (85 <sup>th</sup> Percentile Speed) | $R_{SL,adj}$ | 35                   | 35                   | 35                   |
| Cycle Length (sec)                              | C            | 120                  |                      |                      |
| Duration of phase for through movement          | $D_{T,adj}$  | 35                   | 35                   | 25                   |
| Yellow time for through movement                | $Y_{T,adj}$  | 2.5                  | 2.5                  | 4.4                  |
| Red time for through movement                   | $R_{T,adj}$  | 2.5                  | 2.5                  | 1.3                  |
| Walk Time                                       | $Walk_{adj}$ | 0                    | 0                    | 7                    |
| Crosswalk Length                                | $L_c$        | 72                   | 96                   | 36                   |
| Number of lanes crossed                         | $N_L$        | 6                    | 8                    | 2                    |
| Number of right-turn channelizing islands       | $R_{CI,adj}$ | 0                    | 0                    | 3                    |
| Walking Speed (ft/sec)                          | $S_p$        | 3.5                  |                      |                      |

flow rate of peds arriving at the corner after crossing minor street (ped/hr)

$V_{a,1}$  0 0 0 0

flow rate of peds arriving at the corner to cross minor street (ped/hr)

$V_{a,2}$  0 0 0 0

flow rate of peds arriving at the corner after crossing major street (ped/hr)

$V_{a,3}$  0 0 0 0

flow rate of peds arriving at the corner to cross major street (ped/hr)

$V_{a,4}$  1 0 0 1

flow rate of peds traveling through the corner from Sidewalk A to Sidewalk B or vice versa

$V_{a,5}$  0 0 0 0

Count of vehicles traveling on major/minor street during 15 min period - Existing  $P_{15,adj}$  43.71 31.28 41.25 27.63

Count of vehicles traveling on major/minor street during 15 min period - 2022 Background  $P_{15,adj}$  71.00 50.50 65.00 49.75

Count of vehicles traveling on major/minor street during 15 min period - 2022 Build  $P_{15,adj}$  72.00 52.50 65.83 53.50

Count of vehicles traveling on major/minor street during 15 min period - 2027 Build  $P_{15,adj}$  82.38 59.97 75.75 60.13

Count of vehicles traveling on major/minor street during 15 min period - 2021 Build Phase 1 Alt 3  $P_{15,adj}$  0.00 0.00 0.00 0.00

Count of vehicles traveling on major/minor street during 15 min period - 2021 Build Phase 1 Alt 4  $P_{15,adj}$  0.00 0.00 0.00 0.00

Count of vehicles traveling on major/minor street during 15 min period - 2024 Background  $P_{15,adj}$  0.00 0.00 0.00 0.00

Count of vehicles traveling on major/minor street during 15 min period - 2024 Background U-4714  $P_{15,adj}$  0.00 0.00 0.00 0.00

Count of vehicles traveling on major/minor street during 15 min period - 2024 Build Phase 2 Alt 1  $P_{15,adj}$  0.00 0.00 0.00 0.00

Count of vehicles traveling on major/minor street during 15 min period - 2024 Build Phase 2 Alt 2  $P_{15,adj}$  0.00 0.00 0.00 0.00

Count of vehicles traveling on major/minor street during 15 min period - 2024 Build Phase 2 Alt 3  $P_{15,adj}$  0.00 0.00 0.00 0.00

Count of vehicles traveling on major/minor street during 15 min period - 2029 Background  $P_{15,adj}$  0.00 0.00 0.00 0.00

Count of vehicles traveling on major/minor street during 15 min period - 2029 Background U-4714  $P_{15,adj}$  0.00 0.00 0.00 0.00

Count of vehicles traveling on major/minor street during 15 min period - 2034 Background  $P_{15,adj}$  0.00 0.00 0.00 0.00

Count of vehicles traveling on major/minor street during 15 min period - 2034 Background U-4714  $P_{15,adj}$  0.00 0.00 0.00 0.00

Count of vehicles traveling on major/minor street during 15 min period - 2029 Build Phase 3 Alt 1  $P_{15,adj}$  0.00 0.00 0.00 0.00

Count of vehicles traveling on major/minor street during 15 min period - 2029 Build Phase 3 Alt 2  $P_{15,adj}$  0.00 0.00 0.00 0.00

Count of vehicles traveling on major/minor street during 15 min period - 2029 Build Phase 3 Alt 3  $P_{15,adj}$  0.00 0.00 0.00 0.00

Count of vehicles traveling on major/minor street during 15 min period - 2029 Build Phase 3 Alt 4  $P_{15,adj}$  0.00 0.00 0.00 0.00

Count of vehicles traveling on major/minor street during 15 min period - 2034 Build Alt 1  $P_{15,adj}$  0.00 0.00 0.00 0.00

Count of vehicles traveling on major/minor street during 15 min period - 2034 Build Alt 2  $P_{15,adj}$  0.00 0.00 0.00 0.00

Count of vehicles traveling on major/minor street during 15 min period - 2034 Build Alt 3  $P_{15,adj}$  0.00 0.00 0.00 0.00

Count of vehicles traveling on major/minor street during 15 min period - 2034 Build Alt 4  $P_{15,adj}$  0.00 0.00 0.00 0.00

Effective walk time for through movement  $\Phi_{walk,adj}$  29.6 29.6 11 11

Adjustment Factors

Pedestrian delay (sec/ped)  $d_p$  34.05 34.05 49.50 49.50

Cross section adjustment factor  $F_{cs}$  1.7105 1.9831 1.1978 0.9725

Motorized vehicle volume adjustment factor - Existing  $F_v$  0 0.2162 0.0832 0.1423

Motorized vehicle volume adjustment factor - 2022 Background  $F_v$  0 0.2973 0.0191 0.2447

Motorized vehicle volume adjustment factor - 2022 Build  $F_v$  0 0.3115 0.0169 0.2973

Motorized vehicle volume adjustment factor - 2027 Build  $F_v$  0 0.3642 -0.0099 0.3215

Motorized vehicle volume adjustment factor - 2021 Build Phase 1 Alt 3  $F_v$  0 0 0 0.1946

Motorized vehicle volume adjustment factor - 2021 Build Phase 1 Alt 4  $F_v$  0 0 0 0.1946

Motorized vehicle volume adjustment factor - 2024 Background  $F_v$  0 0 0 0.1946

Motorized vehicle volume adjustment factor - 2024 Background U-4714  $F_v$  0 0 0 0.1946

Motorized vehicle volume adjustment factor - 2024 Build Phase 2 Alt 1  $F_v$  0 0 0 0.1946

Motorized vehicle volume adjustment factor - 2024 Build Phase 2 Alt 2  $F_v$  0 0 0 0.1946

Motorized vehicle volume adjustment factor - 2024 Build Phase 2 Alt 3  $F_v$  0 0 0 0.1946

Motorized vehicle volume adjustment factor - 2024 Build Phase 2 Alt 4  $F_v$  0 0 0 0.1946

Motorized vehicle volume adjustment factor - 2029 Background  $F_v$  0 0 0 0.1946

Motorized vehicle volume adjustment factor - 2029 Background U-4714  $F_v$  0 0 0 0.1946

Motorized vehicle volume adjustment factor - 2034 Background  $F_v$  0 0 0 0.1946

Motorized vehicle volume adjustment factor - 2034 Background U-4714  $F_v$  0 0 0 0.1946

Motorized vehicle volume adjustment factor - 2029 Build Phase 3 Alt 1  $F_v$  0 0 0 0.1946

Motorized vehicle volume adjustment factor - 2029 Build Phase 3 Alt 2  $F_v$  0 0 0 0.1946

Motorized vehicle volume adjustment factor - 2029 Build Phase 3 Alt 3  $F_v$  0 0 0 0.1946

Motorized vehicle volume adjustment factor - 2029 Build Phase 3 Alt 4  $F_v$  0 0 0 0.1946

Motorized vehicle volume adjustment factor - 2034 Build Alt 1  $F_v$  0 0 0 0.1946

Motorized vehicle volume adjustment factor - 2034 Build Alt 2  $F_v$  0 0 0 0.1946

Motorized vehicle volume adjustment factor - 2034 Build Alt 3  $F_v$  0 0 0 0.1946

Motorized vehicle volume adjustment factor - 2034 Build Alt 4  $F_v$  0 0 0 0.1946

Motorized vehicle speed adjustment factor - Existing  $F_s$  0.20 0.14 0.19 0.13

Motorized vehicle speed adjustment factor - 2021 Build Phase 1 Alt 1  $F_s$  0.32 0.23 0.3 0.23

Motorized vehicle speed adjustment factor - 2021 Build Phase 1 Alt 2  $F_s$  0.33 0.24 0.3 0.24

Motorized vehicle speed adjustment factor - 2021 Build Phase 1 Alt 3  $F_s$  0.37 0.27 0.34 0.27

Motorized vehicle speed adjustment factor - 2021 Build Phase 1 Alt 4  $F_s$  0.00 0 0 0

Motorized vehicle speed adjustment factor - 2024 Background  $F_s$  0.00 0 0 0

Motorized vehicle speed adjustment factor - 2024 Background U-4714  $F_s$  0.00 0 0 0

Motorized vehicle speed adjustment factor - 2024 Build Phase 2 Alt 1  $F_s$  0.00 0 0 0

Motorized vehicle speed adjustment factor - 2024 Build Phase 2 Alt 2  $F_s$  0.00 0 0 0

Motorized vehicle speed adjustment factor - 2024 Build Phase 2 Alt 3  $F_s$  0.00 0 0 0

Motorized vehicle speed adjustment factor - 2024 Build Phase 2 Alt 4  $F_s$  0.00 0 0 0

Motorized vehicle speed adjustment factor - 2029 Background  $F_s$  0.00 0 0 0

Motorized vehicle speed adjustment factor - 2029 Background U-4714  $F_s$  0.00 0 0 0

Motorized vehicle speed adjustment factor - 2034 Background  $F_s$  0.00 0 0 0

Motorized vehicle speed adjustment factor - 2034 Background U-4714  $F_s$  0.00 0 0 0

Motorized vehicle speed adjustment factor - 2029 Build Phase 3 Alt 1  $F_s$  0.00 0 0 0

Motorized vehicle speed adjustment factor - 2029 Build Phase 3 Alt 2  $F_s$  0.00 0 0 0

Motorized vehicle speed adjustment factor - 2029 Build Phase 3 Alt 3  $F_s$  0.00 0 0 0

Motorized vehicle speed adjustment factor - 2029 Build Phase 3 Alt 4  $F_s$  0.00 0 0 0

Motorized vehicle speed adjustment factor - 2034 Build Alt 1  $F_s$  0.00 0 0 0

Motorized vehicle speed adjustment factor - 2034 Build Alt 2  $F_s$  0.00 0 0 0

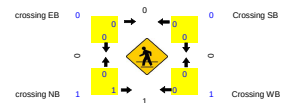
Motorized vehicle speed adjustment factor - 2034 Build Alt 3  $F_s$  0.00 0 0 0

Motorized vehicle speed adjustment factor - 2034 Build Alt 4  $F_s$  0.00 0 0 0

Pedestrian delay adjustment factor  $F_d$  0.15 0.15 0.05 0.05

|                 | NBL | NBT | NBR | NBU | NBL | SBT | SBR | SBU | EBL | EBT | EBR | EBU | WBL | WBT | WBR | WBU |
|-----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 2020 Existing   | 0   | 476 | 39  | 0   | 100 | 273 | 0   | 0   | 152 | 82  | 261 | 0   | 0   | 0   | 0   | 0   |
| 2022 Background | 0   | 701 | 62  | 0   | 172 | 834 | 0   | 0   | 209 | 184 | 407 | 0   | 0   | 0   | 0   | 0   |
| 2022 Build      | 0   | 707 | 67  | 0   | 202 | 852 | 0   | 0   | 219 | 184 | 407 | 0   | 0   | 0   | 0   | 0   |
| 2022 Build      | 0   | 820 | 71  | 0   | 226 | 817 | 0   | 0   | 256 | 184 | 466 | 0   | 0   | 0   | 0   | 0   |

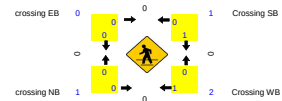
| LOS | LOS Score |            |
|-----|-----------|------------|
| A   | 1.50      | From HCM 6 |
| B   | 2.50      |            |
| C   | 3.50      |            |
| D   | 4.50      |            |
| E   | 5.50      |            |
| F   | >5.50     |            |



| Results                                                          |             |      |      |      |
|------------------------------------------------------------------|-------------|------|------|------|
| Pedestrian LOS score for intersection - Existing                 | $t_{p,adj}$ | 2.66 | 3.09 | 2.12 |
| Pedestrian LOS score for intersection - 2022 Background          | $t_{p,adj}$ | 2.78 | 3.26 | 2.17 |
| Pedestrian LOS score for intersection - 2022 Build               | $t_{p,adj}$ | 2.79 | 3.28 | 2.16 |
| Pedestrian LOS score for intersection - 2027 Build               | $t_{p,adj}$ | 2.83 | 3.37 | 2.18 |
| Pedestrian LOS score for intersection - 2021 Build Phase 1 Alt 3 | $t_{p,adj}$ | 2.46 | 2.73 | 2.04 |
| Pedestrian LOS score for intersection - 2021 Build Phase 1 Alt 4 | $t_{p,adj}$ | 2.46 | 2.73 | 2.04 |
| Pedestrian LOS score for intersection - 2024 Background          | $t_{p,adj}$ | 2.46 | 2.73 | 2.04 |
| Pedestrian LOS score for intersection - 2024 Background U-4714   | $t_{p,adj}$ | 2.46 | 2.73 | 2.04 |
| Pedestrian LOS score for intersection - 2029 Background          | $t_{p,adj}$ | 2.46 | 2.73 | 2.04 |
| Pedestrian LOS score for intersection - 2029 Background U-4714   | $t_{p,adj}$ | 2.46 | 2.73 | 2.04 |
| Pedestrian LOS score for intersection - 2034 Background          | $t_{p,adj}$ | 2.46 | 2.73 | 2.04 |
| Pedestrian LOS score for intersection - 2034 Background U-4714   | $t_{p,adj}$ | 2.46 | 2.73 | 2.04 |
| Pedestrian LOS score for intersection - 2029 Build Phase 2 Alt 1 | $t_{p,adj}$ | 2.46 | 2.73 | 2.04 |
| Pedestrian LOS score for intersection - 2029 Build Phase 2 Alt 2 | $t_{p,adj}$ | 2.46 | 2.73 | 2.04 |
| Pedestrian LOS score for intersection - 2029 Build Phase 2 Alt 3 | $t_{p,adj}$ | 2.46 | 2.73 | 2.04 |
| Pedestrian LOS score for intersection - 2029 Build Phase 2 Alt 4 | $t_{p,adj}$ | 2.46 | 2.73 | 2.04 |
| Pedestrian LOS score for intersection - 2034 Build Phase 2 Alt 1 | $t_{p,adj}$ | 2.46 | 2.73 | 2.04 |
| Pedestrian LOS score for intersection - 2034 Build Phase 2 Alt 2 | $t_{p,adj}$ | 2.46 | 2.73 | 2.04 |
| Pedestrian LOS score for intersection - 2034 Build Phase 2 Alt 3 | $t_{p,adj}$ | 2.46 | 2.73 | 2.04 |
| Pedestrian LOS score for intersection - 2034 Build Phase 2 Alt 4 | $t_{p,adj}$ | 2.46 | 2.73 | 2.04 |

|                                                                      |           |      |      |      |      |
|----------------------------------------------------------------------|-----------|------|------|------|------|
| Motorized vehicle volume adjustment factor - 2021 Build Phase 1 AH 3 | $F_{v1}$  | 0    | 0    | 0    | 0    |
| Motorized vehicle volume adjustment factor - 2021 Build Phase 1 AH 4 | $F_{v2}$  | 0    | 0    | 0    | 0    |
| Motorized vehicle volume adjustment factor - 2024 Background         | $F_{v3}$  | 0    | 0    | 0    | 0    |
| Motorized vehicle volume adjustment factor - 2024 Background U-4714  | $F_{v4}$  | 0    | 0    | 0    | 0    |
| Motorized vehicle volume adjustment factor - 2024 Build Phase 2 AH 1 | $F_{v5}$  | 0    | 0    | 0    | 0    |
| Motorized vehicle volume adjustment factor - 2024 Build Phase 2 AH 2 | $F_{v6}$  | 0    | 0    | 0    | 0    |
| Motorized vehicle volume adjustment factor - 2024 Build Phase 2 AH 3 | $F_{v7}$  | 0    | 0    | 0    | 0    |
| Motorized vehicle volume adjustment factor - 2024 Build Phase 2 AH 4 | $F_{v8}$  | 0    | 0    | 0    | 0    |
| Motorized vehicle volume adjustment factor - 2029 Background         | $F_{v9}$  | 0    | 0    | 0    | 0    |
| Motorized vehicle volume adjustment factor - 2029 Background U-4714  | $F_{v10}$ | 0    | 0    | 0    | 0    |
| Motorized vehicle volume adjustment factor - 2034 Background         | $F_{v11}$ | 0    | 0    | 0    | 0    |
| Motorized vehicle volume adjustment factor - 2034 Background U-4714  | $F_{v12}$ | 0    | 0    | 0    | 0    |
| Motorized vehicle volume adjustment factor - 2029 Build Phase 3 AH 1 | $F_{v13}$ | 0    | 0    | 0    | 0    |
| Motorized vehicle volume adjustment factor - 2029 Build Phase 3 AH 2 | $F_{v14}$ | 0    | 0    | 0    | 0    |
| Motorized vehicle volume adjustment factor - 2029 Build Phase 3 AH 3 | $F_{v15}$ | 0    | 0    | 0    | 0    |
| Motorized vehicle volume adjustment factor - 2029 Build Phase 3 AH 4 | $F_{v16}$ | 0    | 0    | 0    | 0    |
| Motorized vehicle volume adjustment factor - 2034 Build AH 1         | $F_{v17}$ | 0    | 0    | 0    | 0    |
| Motorized vehicle volume adjustment factor - 2034 Build AH 2         | $F_{v18}$ | 0    | 0    | 0    | 0    |
| Motorized vehicle volume adjustment factor - 2034 Build AH 3         | $F_{v19}$ | 0    | 0    | 0    | 0    |
| Motorized vehicle volume adjustment factor - 2034 Build AH 4         | $F_{v20}$ | 0    | 0    | 0    | 0    |
| Motorized vehicle speed adjustment factor - Existing                 | $F_{s1}$  | 0.43 | 0.51 | 0.24 | 0.26 |
| Motorized vehicle speed adjustment factor - 2021 Background          | $F_{s2}$  | 0.73 | 0.53 | 0.38 | 0.18 |
| Motorized vehicle speed adjustment factor - 2021 Build Phase 1 AH 1  | $F_{s3}$  | 0.53 | 0.53 | 0.27 | 0.31 |
| Motorized vehicle speed adjustment factor - 2021 Build Phase 1 AH 2  | $F_{s4}$  | 0.82 | 0.6  | 0.43 | 0.31 |
| Motorized vehicle speed adjustment factor - 2021 Build Phase 1 AH 3  | $F_{s5}$  | 0.00 | 0    | 0    | 0    |
| Motorized vehicle speed adjustment factor - 2021 Build Phase 1 AH 4  | $F_{s6}$  | 0.00 | 0    | 0    | 0    |
| Motorized vehicle speed adjustment factor - 2024 Background          | $F_{s7}$  | 0.00 | 0    | 0    | 0    |
| Motorized vehicle speed adjustment factor - 2024 Background U-4714   | $F_{s8}$  | 0.00 | 0    | 0    | 0    |
| Motorized vehicle speed adjustment factor - 2024 Build Phase 2 AH 1  | $F_{s9}$  | 0.00 | 0    | 0    | 0    |
| Motorized vehicle speed adjustment factor - 2024 Build Phase 2 AH 2  | $F_{s10}$ | 0.00 | 0    | 0    | 0    |
| Motorized vehicle speed adjustment factor - 2024 Build Phase 2 AH 3  | $F_{s11}$ | 0.00 | 0    | 0    | 0    |
| Motorized vehicle speed adjustment factor - 2024 Build Phase 2 AH 4  | $F_{s12}$ | 0.00 | 0    | 0    | 0    |
| Motorized vehicle speed adjustment factor - 2029 Background          | $F_{s13}$ | 0.00 | 0    | 0    | 0    |
| Motorized vehicle speed adjustment factor - 2029 Background U-4714   | $F_{s14}$ | 0.00 | 0    | 0    | 0    |
| Motorized vehicle speed adjustment factor - 2034 Background          | $F_{s15}$ | 0.00 | 0    | 0    | 0    |
| Motorized vehicle speed adjustment factor - 2034 Background U-4714   | $F_{s16}$ | 0.00 | 0    | 0    | 0    |
| Motorized vehicle speed adjustment factor - 2029 Build Phase 3 AH 1  | $F_{s17}$ | 0.00 | 0    | 0    | 0    |
| Motorized vehicle speed adjustment factor - 2029 Build Phase 3 AH 2  | $F_{s18}$ | 0.00 | 0    | 0    | 0    |
| Motorized vehicle speed adjustment factor - 2029 Build Phase 3 AH 3  | $F_{s19}$ | 0.00 | 0    | 0    | 0    |
| Motorized vehicle speed adjustment factor - 2029 Build Phase 3 AH 4  | $F_{s20}$ | 0.00 | 0    | 0    | 0    |
| Motorized vehicle speed adjustment factor - 2034 Build Phase 3 AH 1  | $F_{s21}$ | 0.00 | 0    | 0    | 0    |
| Motorized vehicle speed adjustment factor - 2034 Build Phase 3 AH 2  | $F_{s22}$ | 0.00 | 0    | 0    | 0    |
| Motorized vehicle speed adjustment factor - 2034 Build Phase 3 AH 3  | $F_{s23}$ | 0.00 | 0    | 0    | 0    |
| Motorized vehicle speed adjustment factor - 2034 Build Phase 3 AH 4  | $F_{s24}$ | 0.00 | 0    | 0    | 0    |
| Pedestrian delay adjustment factor                                   | $F_d$     | 0.21 | 0.21 | 0.05 | 0.05 |

|                          |     |   |   |   |   |
|--------------------------|-----|---|---|---|---|
| 2034 Build Phase 2 Alt 4 | LOS | B | B | B | B |
|--------------------------|-----|---|---|---|---|



Stallings Road and Morrice Expressway EB Ramp

| PM PEAK HOUR                                    |             |                      |                      |                      |
|-------------------------------------------------|-------------|----------------------|----------------------|----------------------|
|                                                 |             | Crossing NB Approach | Crossing SB Approach | Crossing EB Approach |
|                                                 |             | Major                | Major                | Minor                |
| Ped Phase                                       |             | N                    | N                    | Minor                |
| Speed Limit (85 <sup>th</sup> Percentile Speed) | $R_{SL,PM}$ | 35                   | 35                   | 35                   |
| Cycle Length (sec)                              | C           | 120                  |                      |                      |
| Duration of phase for through movement          | $D_{T,PM}$  | 31                   | 31                   | 31                   |
| Yellow time for minor-street through movement   | $Y_{T,PM}$  | 3.2                  | 3.2                  | 4.4                  |
| Red time for minor-street through movement      | $R_{T,PM}$  | 2.9                  | 2.9                  | 1.2                  |
| Walk Time                                       | $Walk_{PM}$ | 0                    | 0                    | 7                    |
| Crosswalk Length                                | $L_c$       | 72                   | 96                   | 36                   |
| Number of lanes crossed                         | $N_L$       | 6                    | 8                    | 2                    |
| Number of right-turn channelizing islands       | $R_{CI,PM}$ | 0                    | 0                    | 3                    |
| Walking Speed (ft/sec)                          | $S_p$       | 3.5                  |                      |                      |

flow rate of peds arriving at the corner after crossing minor street (ped/hr)

$V_{a,PM}$  0 0 0 1

flow rate of peds arriving at the corner to cross minor street (ped/hr)

$V_{a,PM}$  0 1 0 0

flow rate of peds arriving at the corner after crossing major street (ped/hr)

$V_{a,PM}$  1 0 0 0

flow rate of peds arriving at the corner to cross major street (ped/hr)

$V_{a,PM}$  0 0 0 1

flow rate of peds traveling through the corner from Sidewalk A to Sidewalk B or vice versa

$V_{a,PM}$  1 1 0 2

|                                                                                                   |             |       |       |       |       |
|---------------------------------------------------------------------------------------------------|-------------|-------|-------|-------|-------|
| Count of vehicles traveling on major/minor street during 15 min period - Existing                 | $P_{15,PM}$ | 46.96 | 33.09 | 51.92 | 35.13 |
| Count of vehicles traveling on major/minor street during 15 min period - 2022 Background          | $P_{15,PM}$ | 77.83 | 55.78 | 79.33 | 57.63 |
| Count of vehicles traveling on major/minor street during 15 min period - 2022 Build               | $P_{15,PM}$ | 79.21 | 58.50 | 82.17 | 60.13 |
| Count of vehicles traveling on major/minor street during 15 min period - 2027 Build               | $P_{15,PM}$ | 90.38 | 66.38 | 94.58 | 68.50 |
| Count of vehicles traveling on major/minor street during 15 min period - 2021 Build Phase 1 Alt 3 | $P_{15,PM}$ | 0.00  | 0.00  | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2021 Build Phase 1 Alt 4 | $P_{15,PM}$ | 0.00  | 0.00  | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2024 Background          | $P_{15,PM}$ | 0.00  | 0.00  | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2024 Background U-4714   | $P_{15,PM}$ | 0.00  | 0.00  | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2024 Build Phase 2 Alt 1 | $P_{15,PM}$ | 0.00  | 0.00  | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2024 Build Phase 2 Alt 2 | $P_{15,PM}$ | 0.00  | 0.00  | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2024 Build Phase 2 Alt 3 | $P_{15,PM}$ | 0.00  | 0.00  | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2029 Background          | $P_{15,PM}$ | 0.00  | 0.00  | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2029 Background U-4714   | $P_{15,PM}$ | 0.00  | 0.00  | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2034 Background          | $P_{15,PM}$ | 0.00  | 0.00  | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2034 Background U-4714   | $P_{15,PM}$ | 0.00  | 0.00  | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2029 Build Phase 3 Alt 1 | $P_{15,PM}$ | 0.00  | 0.00  | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2029 Build Phase 3 Alt 2 | $P_{15,PM}$ | 0.00  | 0.00  | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2029 Build Phase 3 Alt 3 | $P_{15,PM}$ | 0.00  | 0.00  | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2029 Build Phase 3 Alt 4 | $P_{15,PM}$ | 0.00  | 0.00  | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2034 Build Alt 1         | $P_{15,PM}$ | 0.00  | 0.00  | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2034 Build Alt 2         | $P_{15,PM}$ | 0.00  | 0.00  | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2034 Build Alt 3         | $P_{15,PM}$ | 0.00  | 0.00  | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2034 Build Alt 4         | $P_{15,PM}$ | 0.00  | 0.00  | 0.00  | 0.00  |

Effective walk time for through movement  $Q_{walk,PM,PM}$  24.6 24.6 11 11

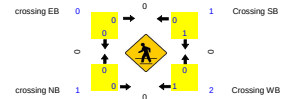
Adjustment Factors

|                                 |          |        |        |        |        |
|---------------------------------|----------|--------|--------|--------|--------|
| Pedestrian delay (sec/ped)      | $d_p$    | 37.92  | 37.92  | 49.50  | 49.50  |
| Cross section adjustment factor | $F_{cs}$ | 1.7105 | 1.9831 | 1.1978 | 0.9725 |

|                                                                       |       |      |        |         |        |
|-----------------------------------------------------------------------|-------|------|--------|---------|--------|
| Motorized vehicle volume adjustment factor - Existing                 | $F_v$ | 0    | 0.3186 | 0.0544  | 0.1437 |
| Motorized vehicle volume adjustment factor - 2022 Background          | $F_v$ | 0    | 0.4865 | -0.0196 | 0.2262 |
| Motorized vehicle volume adjustment factor - 2022 Build               | $F_v$ | 0    | 0.5349 | -0.0273 | 0.2546 |
| Motorized vehicle volume adjustment factor - 2027 Build               | $F_v$ | 0    | 0.6103 | -0.0608 | 0.2888 |
| Motorized vehicle volume adjustment factor - 2021 Build Phase 1 Alt 3 | $F_v$ | 0    | 0      | 0.1946  | 0      |
| Motorized vehicle volume adjustment factor - 2021 Build Phase 1 Alt 4 | $F_v$ | 0    | 0      | 0.1946  | 0      |
| Motorized vehicle volume adjustment factor - 2024 Background          | $F_v$ | 0    | 0      | 0.1946  | 0      |
| Motorized vehicle volume adjustment factor - 2024 Background U-4714   | $F_v$ | 0    | 0      | 0.1946  | 0      |
| Motorized vehicle volume adjustment factor - 2024 Build Phase 2 Alt 1 | $F_v$ | 0    | 0      | 0.1946  | 0      |
| Motorized vehicle volume adjustment factor - 2024 Build Phase 2 Alt 2 | $F_v$ | 0    | 0      | 0.1946  | 0      |
| Motorized vehicle volume adjustment factor - 2024 Build Phase 2 Alt 3 | $F_v$ | 0    | 0      | 0.1946  | 0      |
| Motorized vehicle volume adjustment factor - 2024 Build Phase 2 Alt 4 | $F_v$ | 0    | 0      | 0.1946  | 0      |
| Motorized vehicle volume adjustment factor - 2029 Background          | $F_v$ | 0    | 0      | 0.1946  | 0      |
| Motorized vehicle volume adjustment factor - 2029 Background U-4714   | $F_v$ | 0    | 0      | 0.1946  | 0      |
| Motorized vehicle volume adjustment factor - 2034 Background          | $F_v$ | 0    | 0      | 0.1946  | 0      |
| Motorized vehicle volume adjustment factor - 2034 Background U-4714   | $F_v$ | 0    | 0      | 0.1946  | 0      |
| Motorized vehicle volume adjustment factor - 2029 Build Phase 3 Alt 1 | $F_v$ | 0    | 0      | 0.1946  | 0      |
| Motorized vehicle volume adjustment factor - 2029 Build Phase 3 Alt 2 | $F_v$ | 0    | 0      | 0.1946  | 0      |
| Motorized vehicle volume adjustment factor - 2029 Build Phase 3 Alt 3 | $F_v$ | 0    | 0      | 0.1946  | 0      |
| Motorized vehicle volume adjustment factor - 2029 Build Phase 3 Alt 4 | $F_v$ | 0    | 0      | 0.1946  | 0      |
| Motorized vehicle volume adjustment factor - 2034 Build Alt 1         | $F_v$ | 0    | 0      | 0.1946  | 0      |
| Motorized vehicle volume adjustment factor - 2034 Build Alt 2         | $F_v$ | 0    | 0      | 0.1946  | 0      |
| Motorized vehicle volume adjustment factor - 2034 Build Alt 3         | $F_v$ | 0    | 0      | 0.1946  | 0      |
| Motorized vehicle volume adjustment factor - 2034 Build Alt 4         | $F_v$ | 0    | 0      | 0.1946  | 0      |
| Motorized vehicle speed adjustment factor - Existing                  | $F_s$ | 0.21 | 0.15   | 0.24    | 0.16   |
| Motorized vehicle speed adjustment factor - 2021 Background           | $F_s$ | 0.35 | 0.25   | 0.36    | 0.26   |
| Motorized vehicle speed adjustment factor - 2021 Build Phase 1 Alt 1  | $F_s$ | 0.36 | 0.27   | 0.37    | 0.27   |
| Motorized vehicle speed adjustment factor - 2021 Build Phase 1 Alt 2  | $F_s$ | 0.41 | 0.3    | 0.43    | 0.31   |
| Motorized vehicle speed adjustment factor - 2021 Build Phase 1 Alt 3  | $F_s$ | 0.00 | 0      | 0       | 0      |
| Motorized vehicle speed adjustment factor - 2021 Build Phase 1 Alt 4  | $F_s$ | 0.00 | 0      | 0       | 0      |
| Motorized vehicle speed adjustment factor - 2024 Background           | $F_s$ | 0.00 | 0      | 0       | 0      |
| Motorized vehicle speed adjustment factor - 2024 Background U-4714    | $F_s$ | 0.00 | 0      | 0       | 0      |
| Motorized vehicle speed adjustment factor - 2024 Build Phase 2 Alt 1  | $F_s$ | 0.00 | 0      | 0       | 0      |
| Motorized vehicle speed adjustment factor - 2024 Build Phase 2 Alt 2  | $F_s$ | 0.00 | 0      | 0       | 0      |
| Motorized vehicle speed adjustment factor - 2024 Build Phase 2 Alt 3  | $F_s$ | 0.00 | 0      | 0       | 0      |
| Motorized vehicle speed adjustment factor - 2024 Build Phase 2 Alt 4  | $F_s$ | 0.00 | 0      | 0       | 0      |
| Motorized vehicle speed adjustment factor - 2029 Background           | $F_s$ | 0.00 | 0      | 0       | 0      |
| Motorized vehicle speed adjustment factor - 2029 Background U-4714    | $F_s$ | 0.00 | 0      | 0       | 0      |
| Motorized vehicle speed adjustment factor - 2034 Background           | $F_s$ | 0.00 | 0      | 0       | 0      |
| Motorized vehicle speed adjustment factor - 2034 Background U-4714    | $F_s$ | 0.00 | 0      | 0       | 0      |
| Motorized vehicle speed adjustment factor - 2029 Build Phase 3 Alt 1  | $F_s$ | 0.00 | 0      | 0       | 0      |
| Motorized vehicle speed adjustment factor - 2029 Build Phase 3 Alt 2  | $F_s$ | 0.00 | 0      | 0       | 0      |
| Motorized vehicle speed adjustment factor - 2029 Build Phase 3 Alt 3  | $F_s$ | 0.00 | 0      | 0       | 0      |
| Motorized vehicle speed adjustment factor - 2029 Build Phase 3 Alt 4  | $F_s$ | 0.00 | 0      | 0       | 0      |
| Motorized vehicle speed adjustment factor - 2034 Build Phase 3 Alt 1  | $F_s$ | 0.00 | 0      | 0       | 0      |
| Motorized vehicle speed adjustment factor - 2034 Build Phase 3 Alt 2  | $F_s$ | 0.00 | 0      | 0       | 0      |
| Motorized vehicle speed adjustment factor - 2034 Build Phase 3 Alt 3  | $F_s$ | 0.00 | 0      | 0       | 0      |
| Motorized vehicle speed adjustment factor - 2034 Build Phase 3 Alt 4  | $F_s$ | 0.00 | 0      | 0       | 0      |
| Pedestrian delay adjustment factor                                    | $F_d$ | 0.17 | 0.17   | 0.05    | 0.05   |

|                 | NBL | NBT | NBR | NBU | NBL | SBT | SBR | SBU | EBL | EBT | EBR | EBU | WBL | WBT | WBR | WBU |
|-----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 2020 Existing   | 0   | 489 | 87  | 0   | 101 | 245 | 0   | 0   | 224 | 93  | 306 | 0   | 0   | 0   | 0   | 0   |
| 2027 Background | 0   | 635 | 138 | 0   | 159 | 449 | 0   | 0   | 342 | 184 | 446 | 0   | 0   | 0   | 0   | 0   |
| 2027 Build      | 0   | 656 | 138 | 0   | 179 | 463 | 0   | 0   | 376 | 184 | 446 | 0   | 0   | 0   | 0   | 0   |
| 2032 Build      | 0   | 973 | 158 | 0   | 203 | 519 | 0   | 0   | 429 | 187 | 519 | 0   | 0   | 0   | 0   | 0   |

| LOS | LOS Score |            |
|-----|-----------|------------|
| A   | 1.50      | From HCM 6 |
| B   | 2.50      |            |
| C   | 3.50      |            |
| D   | 4.50      |            |
| E   | 5.50      |            |
| F   | >5.50     |            |



| Results                                                          |            |      |      |      |      |
|------------------------------------------------------------------|------------|------|------|------|------|
| Pedestrian LOS score for intersection - Existing                 | $t_{p,PM}$ | 2.69 | 3.22 | 2.14 | 1.93 |
| Pedestrian LOS score for intersection - 2022 Background          | $t_{p,PM}$ | 2.83 | 3.49 | 2.19 | 2.11 |
| Pedestrian LOS score for intersection - 2022 Build               | $t_{p,PM}$ | 2.84 | 3.56 | 2.19 | 2.15 |
| Pedestrian LOS score for intersection - 2024 Background          | $t_{p,PM}$ | 2.89 | 3.66 | 2.22 | 2.22 |
| Pedestrian LOS score for intersection - 2024 Build               | $t_{p,PM}$ | 2.48 | 2.75 | 2.04 | 1.62 |
| Pedestrian LOS score for intersection - 2021 Build Phase 1 Alt 3 | $t_{p,PM}$ | 2.48 | 2.75 | 2.04 | 1.62 |
| Pedestrian LOS score for intersection - 2021 Build Phase 1 Alt 4 | $t_{p,PM}$ | 2.48 | 2.75 | 2.04 | 1.62 |
| Pedestrian LOS score for intersection - 2024 Build Phase 1 Alt 1 | $t_{p,PM}$ | 2.48 | 2.75 | 2.04 | 1.62 |
| Pedestrian LOS score for intersection - 2024 Build Phase 1 Alt 2 | $t_{p,PM}$ | 2.48 | 2.75 | 2.04 | 1.62 |
| Pedestrian LOS score for intersection - 2024 Build Phase 1 Alt 3 | $t_{p,PM}$ | 2.48 | 2.75 | 2.04 | 1.62 |
| Pedestrian LOS score for intersection - 2024 Build Phase 1 Alt 4 | $t_{p,PM}$ | 2.48 | 2.75 | 2.04 | 1.62 |
| Pedestrian LOS score for intersection - 2029 Background          | $t_{p,PM}$ | 2.48 | 2.75 | 2.04 | 1.62 |
| Pedestrian LOS score for intersection - 2029 Background U-4714   | $t_{p,PM}$ | 2.48 | 2.75 | 2.04 | 1.62 |
| Pedestrian LOS score for intersection - 2034 Background          | $t_{p,PM}$ | 2.48 | 2.75 | 2.04 | 1.62 |
| Pedestrian LOS score for intersection - 2034 Background U-4714   | $t_{p,PM}$ | 2.48 | 2.75 | 2.04 | 1.62 |
| Pedestrian LOS score for intersection - 2029 Build Phase 2 Alt 1 | $t_{p,PM}$ | 2.48 | 2.75 | 2.04 | 1.62 |
| Pedestrian LOS score for intersection - 2029 Build Phase 2 Alt 2 | $t_{p,PM}$ | 2.48 | 2.75 | 2.04 | 1.62 |
| Pedestrian LOS score for intersection - 2029 Build Phase 2 Alt 3 | $t_{p,PM}$ | 2.48 | 2.75 | 2.04 | 1.62 |
| Pedestrian LOS score for intersection - 2029 Build Phase 2 Alt 4 | $t_{p,PM}$ | 2.48 | 2.75 | 2.04 | 1.62 |
| Pedestrian LOS score for intersection - 2034 Build Phase 2 Alt 1 | $t_{p,PM}$ | 2.48 | 2.75 | 2.04 | 1.62 |
| Pedestrian LOS score for intersection - 2034 Build Phase 2 Alt 2 | $t_{p,PM}$ | 2.48 | 2.75 | 2.04 | 1.62 |
| Pedestrian LOS score for intersection - 2034 Build Phase 2 Alt 3 | $t_{p,PM}$ | 2.48 | 2.75 | 2.04 | 1.62 |
| Pedestrian LOS score for intersection - 2034 Build Phase 2 Alt 4 | $t_{p,PM}$ | 2.48 | 2.75 | 2.04 | 1.62 |

Stallings Road and Matthews-Indian Trail Road

AM PEAK HOUR

|                                                 |              | Crossing NB Approach | Crossing SB Approach | Crossing EB Approach | Crossing WB Approach |
|-------------------------------------------------|--------------|----------------------|----------------------|----------------------|----------------------|
|                                                 |              | Major                | Major                | Minor                | Minor                |
| Ped Phase                                       |              | N                    | N                    | N                    | N                    |
| Speed Limit (85 <sup>th</sup> Percentile Speed) | $R_{SL,adj}$ | 35                   | 35                   | 45                   | 35                   |
| Cycle Length (sec)                              | C            | 60                   |                      |                      |                      |
| Duration of phase for through movement          | $D_{T,adj}$  | 20                   | 20                   | 40                   | 40                   |
| Yellow time for through movement                | $Y_{T,adj}$  | 3.4                  | 4.0                  | 3.8                  | 3.8                  |
| Red time for through movement                   | $R_{T,adj}$  | 1.7                  | 1.7                  | 1.7                  | 1.8                  |
| Walk Time                                       | $Walk_{adj}$ | 0                    | 0                    | 0                    | 7                    |
| Crosswalk Length                                | $L_c$        | 70                   | 60                   | 75                   | 100                  |
| Number of lanes crossed                         | $N_L$        | 3                    | 3                    | 3                    | 3                    |
| Number of right-turn channelizing islands       | $R_{CI,adj}$ | 0                    | 0                    | 0                    | 0                    |
| Walking Speed (ft/sec)                          | $S_p$        | 3.5                  |                      |                      |                      |

flow rate of peds arriving at the corner after crossing minor street (ped/hr)

$V_{a0}$  0 0 0 0

flow rate of peds arriving at the corner to cross minor street (ped/hr)

$V_{a0}$  0 0 0 0

flow rate of peds arriving at the corner after crossing major street (ped/hr)

$V_{a0}$  0 0 0 0

flow rate of peds arriving at the corner to cross major street (ped/hr)

$V_{a0}$  1 0 0 1

flow rate of peds traveling through the corner from Sidewalk A to Sidewalk B or vice versa

$V_{a0}$  1 0 0 1

|                                                                                                   |              |        |        |       |       |
|---------------------------------------------------------------------------------------------------|--------------|--------|--------|-------|-------|
| Count of vehicles traveling on major/minor street during 15 min period - Existing                 | $P_{15,adj}$ | 91.17  | 87.17  | 20.83 | 25.33 |
| Count of vehicles traveling on major/minor street during 15 min period - 2022 Background          | $P_{15,adj}$ | 131.08 | 127.67 | 27.83 | 46.42 |
| Count of vehicles traveling on major/minor street during 15 min period - 2022 Build               | $P_{15,adj}$ | 132.42 | 129.67 | 27.83 | 47.08 |
| Count of vehicles traveling on major/minor street during 15 min period - 2027 Build               | $P_{15,adj}$ | 154.25 | 150.42 | 32.83 | 53.00 |
| Count of vehicles traveling on major/minor street during 15 min period - 2021 Build Phase 1 Alt 3 | $P_{15,adj}$ | 0.00   | 0.00   | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2021 Build Phase 1 Alt 4 | $P_{15,adj}$ | 0.00   | 0.00   | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2024 Background          | $P_{15,adj}$ | 0.00   | 0.00   | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2024 Background U-4714   | $P_{15,adj}$ | 0.00   | 0.00   | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2024 Build Phase 2 Alt 1 | $P_{15,adj}$ | 0.00   | 0.00   | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2024 Build Phase 2 Alt 2 | $P_{15,adj}$ | 0.00   | 0.00   | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2024 Build Phase 2 Alt 3 | $P_{15,adj}$ | 0.00   | 0.00   | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2024 Build Phase 2 Alt 4 | $P_{15,adj}$ | 0.00   | 0.00   | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2029 Background          | $P_{15,adj}$ | 0.00   | 0.00   | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2029 Background U-4714   | $P_{15,adj}$ | 0.00   | 0.00   | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2034 Background          | $P_{15,adj}$ | 0.00   | 0.00   | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2034 Background U-4714   | $P_{15,adj}$ | 0.00   | 0.00   | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2029 Build Phase 3 Alt 1 | $P_{15,adj}$ | 0.00   | 0.00   | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2029 Build Phase 3 Alt 2 | $P_{15,adj}$ | 0.00   | 0.00   | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2029 Build Phase 3 Alt 3 | $P_{15,adj}$ | 0.00   | 0.00   | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2029 Build Phase 3 Alt 4 | $P_{15,adj}$ | 0.00   | 0.00   | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2034 Build Alt 1         | $P_{15,adj}$ | 0.00   | 0.00   | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2034 Build Alt 2         | $P_{15,adj}$ | 0.00   | 0.00   | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2034 Build Alt 3         | $P_{15,adj}$ | 0.00   | 0.00   | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2034 Build Alt 4         | $P_{15,adj}$ | 0.00   | 0.00   | 0.00  | 0.00  |

Effective walk time for through movement  $Q_{walk,adj}$  14.7 14.3 34.7 11

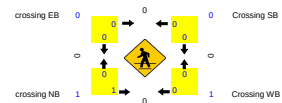
Adjustment Factors

|                                 |          |        |        |        |        |
|---------------------------------|----------|--------|--------|--------|--------|
| Pedestrian delay (sec/ped)      | $d_p$    | 17.10  | 17.40  | 5.33   | 20.01  |
| Cross section adjustment factor | $F_{cs}$ | 1.1978 | 1.1978 | 1.1978 | 1.1978 |

|                                                                       |       |        |        |        |        |
|-----------------------------------------------------------------------|-------|--------|--------|--------|--------|
| Motorized vehicle volume adjustment factor - Existing                 | $F_v$ | 0.0868 | 0.0171 | 0.138  | 0.1209 |
| Motorized vehicle volume adjustment factor - 2022 Background          | $F_v$ | 0.1465 | 0.0285 | 0.175  | 0.2376 |
| Motorized vehicle volume adjustment factor - 2022 Build               | $F_v$ | 0.1465 | 0.0285 | 0.175  | 0.2461 |
| Motorized vehicle volume adjustment factor - 2027 Build               | $F_v$ | 0.1664 | 0.0327 | 0.2091 | 0.2745 |
| Motorized vehicle volume adjustment factor - 2021 Build Phase 1 Alt 3 | $F_v$ | 0      | 0      | 0      | 0      |
| Motorized vehicle volume adjustment factor - 2021 Build Phase 1 Alt 4 | $F_v$ | 0      | 0      | 0      | 0      |
| Motorized vehicle volume adjustment factor - 2024 Background          | $F_v$ | 0      | 0      | 0      | 0      |
| Motorized vehicle volume adjustment factor - 2024 Background U-4714   | $F_v$ | 0      | 0      | 0      | 0      |
| Motorized vehicle volume adjustment factor - 2024 Build Phase 2 Alt 1 | $F_v$ | 0      | 0      | 0      | 0      |
| Motorized vehicle volume adjustment factor - 2024 Build Phase 2 Alt 2 | $F_v$ | 0      | 0      | 0      | 0      |
| Motorized vehicle volume adjustment factor - 2024 Build Phase 2 Alt 3 | $F_v$ | 0      | 0      | 0      | 0      |
| Motorized vehicle volume adjustment factor - 2024 Build Phase 2 Alt 4 | $F_v$ | 0      | 0      | 0      | 0      |
| Motorized vehicle volume adjustment factor - 2029 Background          | $F_v$ | 0      | 0      | 0      | 0      |
| Motorized vehicle volume adjustment factor - 2029 Background U-4714   | $F_v$ | 0      | 0      | 0      | 0      |
| Motorized vehicle volume adjustment factor - 2034 Background          | $F_v$ | 0      | 0      | 0      | 0      |
| Motorized vehicle volume adjustment factor - 2034 Background U-4714   | $F_v$ | 0      | 0      | 0      | 0      |
| Motorized vehicle volume adjustment factor - 2029 Build Phase 3 Alt 1 | $F_v$ | 0      | 0      | 0      | 0      |
| Motorized vehicle volume adjustment factor - 2029 Build Phase 3 Alt 2 | $F_v$ | 0      | 0      | 0      | 0      |
| Motorized vehicle volume adjustment factor - 2029 Build Phase 3 Alt 3 | $F_v$ | 0      | 0      | 0      | 0      |
| Motorized vehicle volume adjustment factor - 2029 Build Phase 3 Alt 4 | $F_v$ | 0      | 0      | 0      | 0      |
| Motorized vehicle volume adjustment factor - 2034 Build Alt 1         | $F_v$ | 0      | 0      | 0      | 0      |
| Motorized vehicle volume adjustment factor - 2034 Build Alt 2         | $F_v$ | 0      | 0      | 0      | 0      |
| Motorized vehicle volume adjustment factor - 2034 Build Alt 3         | $F_v$ | 0      | 0      | 0      | 0      |
| Motorized vehicle volume adjustment factor - 2034 Build Alt 4         | $F_v$ | 0      | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - Existing                  | $F_s$ | 0.41   | 0.4    | 0.12   | 0.12   |
| Motorized vehicle speed adjustment factor - 2021 Background           | $F_s$ | 0.60   | 0.58   | 0.16   | 0.21   |
| Motorized vehicle speed adjustment factor - 2021 Build Phase 1 Alt 1  | $F_s$ | 0.60   | 0.59   | 0.16   | 0.21   |
| Motorized vehicle speed adjustment factor - 2021 Build Phase 1 Alt 2  | $F_s$ | 0.70   | 0.68   | 0.19   | 0.24   |
| Motorized vehicle speed adjustment factor - 2021 Build Phase 1 Alt 3  | $F_s$ | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2021 Build Phase 1 Alt 4  | $F_s$ | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2024 Background           | $F_s$ | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2024 Background U-4714    | $F_s$ | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2024 Build Phase 2 Alt 1  | $F_s$ | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2024 Build Phase 2 Alt 2  | $F_s$ | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2024 Build Phase 2 Alt 3  | $F_s$ | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2024 Build Phase 2 Alt 4  | $F_s$ | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2029 Background           | $F_s$ | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2029 Background U-4714    | $F_s$ | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2034 Background           | $F_s$ | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2034 Background U-4714    | $F_s$ | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2029 Build Phase 3 Alt 1  | $F_s$ | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2029 Build Phase 3 Alt 2  | $F_s$ | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2029 Build Phase 3 Alt 3  | $F_s$ | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2029 Build Phase 3 Alt 4  | $F_s$ | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2034 Build Phase 3 Alt 1  | $F_s$ | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2034 Build Phase 3 Alt 2  | $F_s$ | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2034 Build Phase 3 Alt 3  | $F_s$ | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2034 Build Phase 3 Alt 4  | $F_s$ | 0.00   | 0      | 0      | 0      |
| Pedestrian delay adjustment factor                                    | $F_d$ | 0.08   | 0.08   | 0.2    | 0.05   |

|                 | NBL | NBT | NBR | NBU | NBL | SBT | SBR | SBU | EBL | EBT | EBR | EBU | WBL | WBT | WBR | WBU |
|-----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 2020 Existing   | 97  | 436 | 38  | 0   | 85  | 412 | 36  | 0   | 12  | 16  | 50  | 0   | 61  | 39  | 65  | 0   |
| 2027 Background | 123 | 614 | 98  | 0   | 187 | 871 | 49  | 0   | 20  | 25  | 64  | 0   | 103 | 53  | 111 | 0   |
| 2022 Build      | 147 | 722 | 107 | 0   | 193 | 882 | 57  | 0   | 23  | 29  | 76  | 0   | 117 | 62  | 128 | 0   |

| LOS | LOS Score |            |
|-----|-----------|------------|
| A   | 1.50      | From HCM 6 |
| B   | 2.50      |            |
| C   | 3.50      |            |
| D   | 4.50      |            |
| E   | 5.50      |            |
| F   | >5.50     |            |



Stallings Road and Matthews-Indian Trail Road

| PM PEAK HOUR                                    |                      |                      |                      |                      |
|-------------------------------------------------|----------------------|----------------------|----------------------|----------------------|
|                                                 | Crossing NB Approach | Crossing SB Approach | Crossing EB Approach | Crossing WB Approach |
|                                                 | Major                | Major                | Minor                | Minor                |
| Ped Phase                                       | N                    | N                    | N                    | N                    |
| Speed Limit (85 <sup>th</sup> Percentile Speed) | 35                   | 35                   | 45                   | 35                   |
| Cycle Length (sec)                              | C                    |                      | 60                   |                      |
| Duration of phase for through movement          | D <sub>THRU</sub>    | 22                   | 22                   | 38                   |
| Yellow time for minor-street through movement   | Y <sub>MIN</sub>     | 3.6                  | 4.2                  | 3.8                  |
| Red time for minor-street through movement      | R <sub>MIN</sub>     | 1.7                  | 1.7                  | 1.7                  |
| Walk Time                                       | Walk <sub>MIN</sub>  | 0                    | 0                    | 7                    |
| Crosswalk Length                                | L <sub>c</sub>       | 70                   | 60                   | 75                   |
| Number of lanes crossed                         | N <sub>c</sub>       | 3                    | 3                    | 3                    |
| Number of right-turn channelizing islands       | N <sub>CHISL</sub>   | 0                    | 0                    | 0                    |
| Walking Speed (ft/sec)                          | S <sub>p</sub>       |                      | 3.5                  |                      |

flow rate of peds arriving at the corner after crossing minor street (ped/hr)

V<sub>ap</sub> 0 0 0 0

flow rate of peds arriving at the corner to cross minor street (ped/hr)

V<sub>ap</sub> 0 0 0 0

flow rate of peds arriving at the corner after crossing major street (ped/hr)

V<sub>ap</sub> 0 1 1 0

flow rate of peds arriving at the corner to cross major street (ped/hr)

V<sub>ap</sub> 0 1 1 1

flow rate of peds traveling through the corner from Sidewalk A to Sidewalk B or vice versa

V<sub>ap</sub> 1 1 1 1

|                                                                                                   |                    |        |        |       |       |
|---------------------------------------------------------------------------------------------------|--------------------|--------|--------|-------|-------|
| Count of vehicles traveling on major/minor street during 15 min period - Existing                 | P <sub>15min</sub> | 94.42  | 93.83  | 21.92 | 27.33 |
| Count of vehicles traveling on major/minor street during 15 min period - 2022 Background          | P <sub>15min</sub> | 138.83 | 140.00 | 29.50 | 52.17 |
| Count of vehicles traveling on major/minor street during 15 min period - 2022 Build               | P <sub>15min</sub> | 140.67 | 142.75 | 29.50 | 53.08 |
| Count of vehicles traveling on major/minor street during 15 min period - 2027 Build               | P <sub>15min</sub> | 163.17 | 165.08 | 34.75 | 59.67 |
| Count of vehicles traveling on major/minor street during 15 min period - 2021 Build Phase 1 Alt 3 | P <sub>15min</sub> | 0.00   | 0.00   | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2021 Build Phase 1 Alt 4 | P <sub>15min</sub> | 0.00   | 0.00   | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2024 Background          | P <sub>15min</sub> | 0.00   | 0.00   | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2024 Background U-4714   | P <sub>15min</sub> | 0.00   | 0.00   | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2024 Build Phase 2 Alt 1 | P <sub>15min</sub> | 0.00   | 0.00   | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2024 Build Phase 2 Alt 2 | P <sub>15min</sub> | 0.00   | 0.00   | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2024 Build Phase 2 Alt 3 | P <sub>15min</sub> | 0.00   | 0.00   | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2024 Build Phase 2 Alt 4 | P <sub>15min</sub> | 0.00   | 0.00   | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2029 Background          | P <sub>15min</sub> | 0.00   | 0.00   | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2029 Background U-4714   | P <sub>15min</sub> | 0.00   | 0.00   | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2034 Background          | P <sub>15min</sub> | 0.00   | 0.00   | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2034 Background U-4714   | P <sub>15min</sub> | 0.00   | 0.00   | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2029 Build Phase 3 Alt 1 | P <sub>15min</sub> | 0.00   | 0.00   | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2029 Build Phase 3 Alt 2 | P <sub>15min</sub> | 0.00   | 0.00   | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2029 Build Phase 3 Alt 3 | P <sub>15min</sub> | 0.00   | 0.00   | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2029 Build Phase 3 Alt 4 | P <sub>15min</sub> | 0.00   | 0.00   | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2034 Build Alt 1         | P <sub>15min</sub> | 0.00   | 0.00   | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2034 Build Alt 2         | P <sub>15min</sub> | 0.00   | 0.00   | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2034 Build Alt 3         | P <sub>15min</sub> | 0.00   | 0.00   | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2034 Build Alt 4         | P <sub>15min</sub> | 0.00   | 0.00   | 0.00  | 0.00  |

Effective walk time for through movement

Q<sub>walk, sec/mi</sub> 16.7 16.3 32.7 11

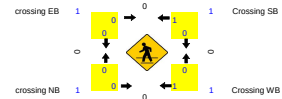
Adjustment Factors

|                                 |                |        |        |        |        |
|---------------------------------|----------------|--------|--------|--------|--------|
| Pedestrian delay (sec/ped)      | d <sub>p</sub> | 15.62  | 15.91  | 6.21   | 20.01  |
| Cross section adjustment factor | F <sub>c</sub> | 1.1978 | 1.1978 | 1.1978 | 1.1978 |

|                                                                       |                |        |        |        |        |
|-----------------------------------------------------------------------|----------------|--------|--------|--------|--------|
| Motorized vehicle volume adjustment factor - Existing                 | F <sub>v</sub> | 0.064  | 0.0299 | 0.0413 | 0.101  |
| Motorized vehicle volume adjustment factor - 2022 Background          | F <sub>v</sub> | 0.1593 | 0.0441 | 0.0526 | 0.1892 |
| Motorized vehicle volume adjustment factor - 2022 Build               | F <sub>v</sub> | 0.1593 | 0.0441 | 0.0526 | 0.1949 |
| Motorized vehicle volume adjustment factor - 2027 Build               | F <sub>v</sub> | 0.175  | 0.0512 | 0.0626 | 0.2191 |
| Motorized vehicle volume adjustment factor - 2021 Build Phase 1 Alt 3 | F <sub>v</sub> | 0      | 0      | 0      | 0      |
| Motorized vehicle volume adjustment factor - 2021 Build Phase 1 Alt 4 | F <sub>v</sub> | 0      | 0      | 0      | 0      |
| Motorized vehicle volume adjustment factor - 2024 Background          | F <sub>v</sub> | 0      | 0      | 0      | 0      |
| Motorized vehicle volume adjustment factor - 2024 Background U-4714   | F <sub>v</sub> | 0      | 0      | 0      | 0      |
| Motorized vehicle volume adjustment factor - 2024 Build Phase 2 Alt 1 | F <sub>v</sub> | 0      | 0      | 0      | 0      |
| Motorized vehicle volume adjustment factor - 2024 Build Phase 2 Alt 2 | F <sub>v</sub> | 0      | 0      | 0      | 0      |
| Motorized vehicle volume adjustment factor - 2024 Build Phase 2 Alt 3 | F <sub>v</sub> | 0      | 0      | 0      | 0      |
| Motorized vehicle volume adjustment factor - 2024 Build Phase 2 Alt 4 | F <sub>v</sub> | 0      | 0      | 0      | 0      |
| Motorized vehicle volume adjustment factor - 2029 Background          | F <sub>v</sub> | 0      | 0      | 0      | 0      |
| Motorized vehicle volume adjustment factor - 2029 Background U-4714   | F <sub>v</sub> | 0      | 0      | 0      | 0      |
| Motorized vehicle volume adjustment factor - 2034 Background          | F <sub>v</sub> | 0      | 0      | 0      | 0      |
| Motorized vehicle volume adjustment factor - 2034 Background U-4714   | F <sub>v</sub> | 0      | 0      | 0      | 0      |
| Motorized vehicle volume adjustment factor - 2029 Build Phase 3 Alt 1 | F <sub>v</sub> | 0      | 0      | 0      | 0      |
| Motorized vehicle volume adjustment factor - 2029 Build Phase 3 Alt 2 | F <sub>v</sub> | 0      | 0      | 0      | 0      |
| Motorized vehicle volume adjustment factor - 2029 Build Phase 3 Alt 3 | F <sub>v</sub> | 0      | 0      | 0      | 0      |
| Motorized vehicle volume adjustment factor - 2029 Build Phase 3 Alt 4 | F <sub>v</sub> | 0      | 0      | 0      | 0      |
| Motorized vehicle volume adjustment factor - 2034 Build Alt 1         | F <sub>v</sub> | 0      | 0      | 0      | 0      |
| Motorized vehicle volume adjustment factor - 2034 Build Alt 2         | F <sub>v</sub> | 0      | 0      | 0      | 0      |
| Motorized vehicle volume adjustment factor - 2034 Build Alt 3         | F <sub>v</sub> | 0      | 0      | 0      | 0      |
| Motorized vehicle volume adjustment factor - 2034 Build Alt 4         | F <sub>v</sub> | 0      | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - Existing                  | F <sub>s</sub> | 0.43   | 0.43   | 0.13   | 0.12   |
| Motorized vehicle speed adjustment factor - 2021 Build Phase 1 Alt 1  | F <sub>s</sub> | 0.64   | 0.65   | 0.17   | 0.24   |
| Motorized vehicle speed adjustment factor - 2021 Build Phase 1 Alt 2  | F <sub>s</sub> | 0.74   | 0.75   | 0.2    | 0.27   |
| Motorized vehicle speed adjustment factor - 2021 Build Phase 1 Alt 3  | F <sub>s</sub> | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2021 Build Phase 1 Alt 4  | F <sub>s</sub> | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2024 Background           | F <sub>s</sub> | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2024 Background U-4714    | F <sub>s</sub> | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2024 Build Phase 2 Alt 1  | F <sub>s</sub> | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2024 Build Phase 2 Alt 2  | F <sub>s</sub> | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2024 Build Phase 2 Alt 3  | F <sub>s</sub> | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2024 Build Phase 2 Alt 4  | F <sub>s</sub> | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2029 Background           | F <sub>s</sub> | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2029 Background U-4714    | F <sub>s</sub> | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2034 Background           | F <sub>s</sub> | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2034 Background U-4714    | F <sub>s</sub> | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2029 Build Phase 3 Alt 1  | F <sub>s</sub> | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2029 Build Phase 3 Alt 2  | F <sub>s</sub> | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2029 Build Phase 3 Alt 3  | F <sub>s</sub> | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2029 Build Phase 3 Alt 4  | F <sub>s</sub> | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2034 Build Phase 3 Alt 1  | F <sub>s</sub> | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2034 Build Phase 3 Alt 2  | F <sub>s</sub> | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2034 Build Phase 3 Alt 3  | F <sub>s</sub> | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2034 Build Phase 3 Alt 4  | F <sub>s</sub> | 0.00   | 0      | 0      | 0      |
| Pedestrian delay adjustment factor                                    | F <sub>d</sub> | 0.07   | 0.07   | 0.19   | 0.05   |

|                 | NBL | NBT | NBR | NBU | NBL | SBT | SBR | SBU | EBL | EBT | EBR | EBU | WBL | WBT | WBR | WBU |
|-----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 2020 Existing   | 29  | 462 | 42  | 0   | 71  | 451 | 30  | 0   | 21  | 54  | 104 | 0   | 45  | 25  | 91  | 0   |
| 2027 Background | 37  | 650 | 91  | 0   | 133 | 644 | 43  | 0   | 31  | 79  | 132 | 0   | 112 | 38  | 179 | 0   |
| 2027 Build      | 37  | 664 | 91  | 0   | 137 | 652 | 43  | 0   | 31  | 79  | 132 | 0   | 112 | 38  | 186 | 0   |
| 2032 Build      | 44  | 774 | 101 | 0   | 154 | 799 | 50  | 0   | 36  | 86  | 157 | 0   | 123 | 44  | 208 | 0   |

| LOS | LOS Score | From HCM 6 |
|-----|-----------|------------|
| A   | 1.50      |            |
| B   | 2.50      |            |
| C   | 3.50      |            |
| D   | 4.50      |            |
| E   | 5.50      |            |
| F   | >5.50     |            |



| Results                                                          |                 |      |      |      |
|------------------------------------------------------------------|-----------------|------|------|------|
| Pedestrian LOS score for intersection - Existing                 | t <sub>90</sub> | 2.36 | 2.33 | 2.16 |
| Pedestrian LOS score for intersection - 2022 Background          | t <sub>90</sub> | 2.66 | 2.55 | 2.21 |
| Pedestrian LOS score for intersection - 2022 Build               | t <sub>90</sub> | 2.67 | 2.56 | 2.21 |
| Pedestrian LOS score for intersection - 2024 Background          | t <sub>90</sub> | 2.78 | 2.67 | 2.25 |
| Pedestrian LOS score for intersection - 2024 Build               | t <sub>90</sub> | 2.78 | 2.67 | 2.25 |
| Pedestrian LOS score for intersection - 2021 Build Phase 1 Alt 3 | t <sub>90</sub> | 1.87 | 1.87 | 1.99 |
| Pedestrian LOS score for intersection - 2021 Build Phase 1 Alt 4 | t <sub>90</sub> | 1.87 | 1.87 | 1.99 |
| Pedestrian LOS score for intersection - 2024 Background          | t <sub>90</sub> | 1.87 | 1.87 | 1.99 |
| Pedestrian LOS score for intersection - 2024 Build               | t <sub>90</sub> | 1.87 | 1.87 | 1.99 |
| Pedestrian LOS score for intersection - 2029 Background          | t <sub>90</sub> | 1.87 | 1.87 | 1.99 |
| Pedestrian LOS score for intersection - 2029 Background U-4714   | t <sub>90</sub> | 1.87 | 1.87 | 1.99 |
| Pedestrian LOS score for intersection - 2034 Background          | t <sub>90</sub> | 1.87 | 1.87 | 1.99 |
| Pedestrian LOS score for intersection - 2034 Build               | t <sub>90</sub> | 1.87 | 1.87 | 1.99 |
| Pedestrian LOS score for intersection - 2029 Build Phase 2 Alt 1 | t <sub>90</sub> | 1.87 | 1.87 | 1.99 |
| Pedestrian LOS score for intersection - 2029 Build Phase 2 Alt 2 | t <sub>90</sub> | 1.87 | 1.87 | 1.99 |
| Pedestrian LOS score for intersection - 2029 Build Phase 2 Alt 3 | t <sub>90</sub> | 1.87 | 1.87 | 1.99 |
| Pedestrian LOS score for intersection - 2029 Build Phase 2 Alt 4 | t <sub>90</sub> | 1.87 | 1.87 | 1.99 |
| Pedestrian LOS score for intersection - 2034 Build Phase 2 Alt 1 | t <sub>90</sub> | 1.87 | 1.87 | 1.99 |
| Pedestrian LOS score for intersection - 2034 Build Phase 2 Alt 2 | t <sub>90</sub> | 1.87 | 1.87 | 1.99 |
| Pedestrian LOS score for intersection - 2034 Build Phase 2 Alt 3 | t <sub>90</sub> | 1.87 | 1.87 | 1.99 |
| Pedestrian LOS score for intersection - 2034 Build Phase 2 Alt 4 | t <sub>90</sub> | 1.87 | 1.87 | 1.99 |

Stallings Road and Matthews-Indian Trail Road

AM PEAK HOUR

|                                                 |              | Crossing NB Approach | Crossing SB Approach | Crossing EB Approach | Crossing WB Approach |
|-------------------------------------------------|--------------|----------------------|----------------------|----------------------|----------------------|
|                                                 |              | Major                | Major                | Minor                | Minor                |
| Ped Phase                                       |              | N                    | N                    | N                    | N                    |
| Speed Limit (85 <sup>th</sup> Percentile Speed) | $R_{SL,adj}$ | 35                   | 35                   | 45                   | 35                   |
| Cycle Length (sec)                              | C            | 60                   |                      |                      |                      |
| Duration of phase for through movement          | $D_{T,adj}$  | 18                   | 18                   | 42                   | 42                   |
| Yellow time for through movement                | $Y_{T,adj}$  | 3.4                  | 4.0                  | 2.8                  | 3.8                  |
| Red time for through movement                   | $R_{T,adj}$  | 1.7                  | 1.7                  | 1.7                  | 1.8                  |
| Walk Time                                       | $W_{adj}$    | 0                    | 0                    | 0                    | 7                    |
| Crosswalk Length                                | $L_c$        | 70                   | 60                   | 75                   | 100                  |
| Number of lanes crossed                         | $N_L$        | 3                    | 3                    | 3                    | 3                    |
| Number of right-turn channelizing islands       | $R_{CI,adj}$ | 0                    | 0                    | 0                    | 0                    |
| Walking Speed (ft/sec)                          | $S_p$        | 3.5                  |                      |                      |                      |

flow rate of peds arriving at the corner after crossing minor street (ped/hr)

$V_{a,0}$  0 0 0 0

flow rate of peds arriving at the corner to cross minor street (ped/hr)

$V_{a,0}$  0 0 0 0

flow rate of peds arriving at the corner after crossing major street (ped/hr)

$V_{a,0}$  0 0 0 0

flow rate of peds arriving at the corner to cross major street (ped/hr)

$V_{a,0}$  1 0 0 1

flow rate of peds traveling through the corner from Sidewalk A to Sidewalk B or vice versa

$V_{a,0}$  1 0 0 1

Count of vehicles traveling on major/minor street during 15 min period - Existing  $P_{15,adj}$  91.17 87.17 20.83 25.33

Count of vehicles traveling on major/minor street during 15 min period - 2022 Background  $P_{15,adj}$  131.08 127.67 27.83 46.42

Count of vehicles traveling on major/minor street during 15 min period - 2022 Build  $P_{15,adj}$  132.42 129.67 27.83 47.08

Count of vehicles traveling on major/minor street during 15 min period - 2027 Build  $P_{15,adj}$  154.25 150.42 32.83 53.00

Count of vehicles traveling on major/minor street during 15 min period - 2021 Build Phase 1 Alt 3  $P_{15,adj}$  0.00 0.00 0.00 0.00

Count of vehicles traveling on major/minor street during 15 min period - 2021 Build Phase 1 Alt 4  $P_{15,adj}$  0.00 0.00 0.00 0.00

Count of vehicles traveling on major/minor street during 15 min period - 2024 Background  $P_{15,adj}$  0.00 0.00 0.00 0.00

Count of vehicles traveling on major/minor street during 15 min period - 2024 Background U-4714  $P_{15,adj}$  0.00 0.00 0.00 0.00

Count of vehicles traveling on major/minor street during 15 min period - 2024 Build Phase 2 Alt 1  $P_{15,adj}$  0.00 0.00 0.00 0.00

Count of vehicles traveling on major/minor street during 15 min period - 2024 Build Phase 2 Alt 2  $P_{15,adj}$  0.00 0.00 0.00 0.00

Count of vehicles traveling on major/minor street during 15 min period - 2024 Build Phase 2 Alt 3  $P_{15,adj}$  0.00 0.00 0.00 0.00

Count of vehicles traveling on major/minor street during 15 min period - 2029 Background  $P_{15,adj}$  0.00 0.00 0.00 0.00

Count of vehicles traveling on major/minor street during 15 min period - 2029 Background U-4714  $P_{15,adj}$  0.00 0.00 0.00 0.00

Count of vehicles traveling on major/minor street during 15 min period - 2034 Background  $P_{15,adj}$  0.00 0.00 0.00 0.00

Count of vehicles traveling on major/minor street during 15 min period - 2034 Background U-4714  $P_{15,adj}$  0.00 0.00 0.00 0.00

Count of vehicles traveling on major/minor street during 15 min period - 2029 Build Phase 3 Alt 1  $P_{15,adj}$  0.00 0.00 0.00 0.00

Count of vehicles traveling on major/minor street during 15 min period - 2029 Build Phase 3 Alt 2  $P_{15,adj}$  0.00 0.00 0.00 0.00

Count of vehicles traveling on major/minor street during 15 min period - 2029 Build Phase 3 Alt 3  $P_{15,adj}$  0.00 0.00 0.00 0.00

Count of vehicles traveling on major/minor street during 15 min period - 2029 Build Phase 3 Alt 4  $P_{15,adj}$  0.00 0.00 0.00 0.00

Count of vehicles traveling on major/minor street during 15 min period - 2034 Build Alt 1  $P_{15,adj}$  0.00 0.00 0.00 0.00

Count of vehicles traveling on major/minor street during 15 min period - 2034 Build Alt 2  $P_{15,adj}$  0.00 0.00 0.00 0.00

Count of vehicles traveling on major/minor street during 15 min period - 2034 Build Alt 3  $P_{15,adj}$  0.00 0.00 0.00 0.00

Count of vehicles traveling on major/minor street during 15 min period - 2034 Build Alt 4  $P_{15,adj}$  0.00 0.00 0.00 0.00

Effective walk time for through movement  $Q_{walk,adj}$  12.7 12.3 36.7 11

Adjustment Factors

Pedestrian delay (sec/ped)  $d_p$  18.64 18.96 4.52 20.01

Cross section adjustment factor  $F_{cs}$  1.1978 1.1978 1.1978 1.1978

Motorized vehicle volume adjustment factor - Existing  $F_v$  0.0868 0.0171 0.138 0.1209

Motorized vehicle volume adjustment factor - 2022 Background  $F_v$  0.1465 0.0285 0.175 0.2376

Motorized vehicle volume adjustment factor - 2022 Build  $F_v$  0.1465 0.0285 0.175 0.2461

Motorized vehicle volume adjustment factor - 2027 Build  $F_v$  0.1664 0.0327 0.2091 0.2745

Motorized vehicle volume adjustment factor - 2021 Build Phase 1 Alt 3  $F_v$  0 0 0 0

Motorized vehicle volume adjustment factor - 2021 Build Phase 1 Alt 4  $F_v$  0 0 0 0

Motorized vehicle volume adjustment factor - 2024 Background  $F_v$  0 0 0 0

Motorized vehicle volume adjustment factor - 2024 Background U-4714  $F_v$  0 0 0 0

Motorized vehicle volume adjustment factor - 2024 Build Phase 2 Alt 1  $F_v$  0 0 0 0

Motorized vehicle volume adjustment factor - 2024 Build Phase 2 Alt 2  $F_v$  0 0 0 0

Motorized vehicle volume adjustment factor - 2024 Build Phase 2 Alt 3  $F_v$  0 0 0 0

Motorized vehicle volume adjustment factor - 2024 Build Phase 2 Alt 4  $F_v$  0 0 0 0

Motorized vehicle volume adjustment factor - 2029 Background  $F_v$  0 0 0 0

Motorized vehicle volume adjustment factor - 2029 Background U-4714  $F_v$  0 0 0 0

Motorized vehicle volume adjustment factor - 2034 Background  $F_v$  0 0 0 0

Motorized vehicle volume adjustment factor - 2034 Background U-4714  $F_v$  0 0 0 0

Motorized vehicle volume adjustment factor - 2029 Build Phase 3 Alt 1  $F_v$  0 0 0 0

Motorized vehicle volume adjustment factor - 2029 Build Phase 3 Alt 2  $F_v$  0 0 0 0

Motorized vehicle volume adjustment factor - 2029 Build Phase 3 Alt 3  $F_v$  0 0 0 0

Motorized vehicle volume adjustment factor - 2029 Build Phase 3 Alt 4  $F_v$  0 0 0 0

Motorized vehicle volume adjustment factor - 2034 Build Alt 1  $F_v$  0 0 0 0

Motorized vehicle volume adjustment factor - 2034 Build Alt 2  $F_v$  0 0 0 0

Motorized vehicle volume adjustment factor - 2034 Build Alt 3  $F_v$  0 0 0 0

Motorized vehicle volume adjustment factor - 2034 Build Alt 4  $F_v$  0 0 0 0

Motorized vehicle speed adjustment factor - Existing  $F_s$  0.41 0 0 0

Motorized vehicle speed adjustment factor - 2021 Background  $F_s$  0.60 0.58 0.16 0.21

Motorized vehicle speed adjustment factor - 2021 Build Phase 1 Alt 1  $F_s$  0.60 0.59 0.16 0.21

Motorized vehicle speed adjustment factor - 2021 Build Phase 1 Alt 2  $F_s$  0.70 0.68 0.19 0.24

Motorized vehicle speed adjustment factor - 2021 Build Phase 1 Alt 3  $F_s$  0.00 0 0 0

Motorized vehicle speed adjustment factor - 2021 Build Phase 1 Alt 4  $F_s$  0.00 0 0 0

Motorized vehicle speed adjustment factor - 2024 Background  $F_s$  0.00 0 0 0

Motorized vehicle speed adjustment factor - 2024 Background U-4714  $F_s$  0.00 0 0 0

Motorized vehicle speed adjustment factor - 2024 Build Phase 2 Alt 1  $F_s$  0.00 0 0 0

Motorized vehicle speed adjustment factor - 2024 Build Phase 2 Alt 2  $F_s$  0.00 0 0 0

Motorized vehicle speed adjustment factor - 2024 Build Phase 2 Alt 3  $F_s$  0.00 0 0 0

Motorized vehicle speed adjustment factor - 2024 Build Phase 2 Alt 4  $F_s$  0.00 0 0 0

Motorized vehicle speed adjustment factor - 2029 Background  $F_s$  0.00 0 0 0

Motorized vehicle speed adjustment factor - 2029 Background U-4714  $F_s$  0.00 0 0 0

Motorized vehicle speed adjustment factor - 2034 Background  $F_s$  0.00 0 0 0

Motorized vehicle speed adjustment factor - 2034 Background U-4714  $F_s$  0.00 0 0 0

Motorized vehicle speed adjustment factor - 2029 Build Phase 3 Alt 1  $F_s$  0.00 0 0 0

Motorized vehicle speed adjustment factor - 2029 Build Phase 3 Alt 2  $F_s$  0.00 0 0 0

Motorized vehicle speed adjustment factor - 2029 Build Phase 3 Alt 3  $F_s$  0.00 0 0 0

Motorized vehicle speed adjustment factor - 2029 Build Phase 3 Alt 4  $F_s$  0.00 0 0 0

Motorized vehicle speed adjustment factor - 2034 Build Phase 3 Alt 1  $F_s$  0.00 0 0 0

Motorized vehicle speed adjustment factor - 2034 Build Phase 3 Alt 2  $F_s$  0.00 0 0 0

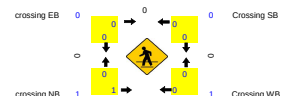
Motorized vehicle speed adjustment factor - 2034 Build Phase 3 Alt 3  $F_s$  0.00 0 0 0

Motorized vehicle speed adjustment factor - 2034 Build Phase 3 Alt 4  $F_s$  0.00 0 0 0

Pedestrian delay adjustment factor  $F_d$  0.08 0.09 0.21 0.05

|                 | NBL | NBT | NBR | NBU | NBL | SBT | SBR | SBU | EBL | EBT | EBR | EBU | WBL | WBT | WBR | WBU |
|-----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 2020 Existing   | 97  | 436 | 38  | 0   | 85  | 412 | 36  | 0   | 12  | 16  | 50  | 0   | 61  | 39  | 65  | 0   |
| 2022 Background | 123 | 614 | 98  | 0   | 187 | 871 | 49  | 0   | 20  | 25  | 64  | 0   | 103 | 53  | 111 | 0   |
| 2022 Build      | 147 | 722 | 107 | 0   | 193 | 882 | 57  | 0   | 23  | 29  | 76  | 0   | 117 | 62  | 128 | 0   |

| LOS | LOS Score |            |
|-----|-----------|------------|
| A   | 1.50      | From HCM 6 |
| B   | 2.50      |            |
| C   | 3.50      |            |
| D   | 4.50      |            |
| E   | 5.50      |            |
| F   | >5.50     |            |



| Results                                                          |             |      |      |      |      |
|------------------------------------------------------------------|-------------|------|------|------|------|
| Pedestrian LOS score for intersection - Existing                 | $t_{p,adj}$ | 2.37 | 2.30 | 2.27 | 2.09 |
|                                                                  | $t_{p,adj}$ | B    | B    | B    | B    |
| Pedestrian LOS score for intersection - 2022 Background          | $t_{p,adj}$ | 2.62 | 2.50 | 2.34 | 2.30 |
|                                                                  | $t_{p,adj}$ | C    | C    | B    | B    |
| Pedestrian LOS score for intersection - 2022 Build               | $t_{p,adj}$ | 2.62 | 2.51 | 2.34 | 2.30 |
|                                                                  | $t_{p,adj}$ | C    | C    | B    | B    |
| Pedestrian LOS score for intersection - 2027 Build               | $t_{p,adj}$ | 2.74 | 2.60 | 2.41 | 2.36 |
|                                                                  | $t_{p,adj}$ | C    | C    | B    | B    |
| Pedestrian LOS score for intersection - 2021 Build Phase 1 Alt 3 | $t_{p,adj}$ | 1.88 | 1.89 | 2.01 | 1.85 |
|                                                                  | $t_{p,adj}$ | B    | B    | B    | B    |
| Pedestrian LOS score for intersection - 2021 Build Phase 1 Alt 4 | $t_{p,adj}$ | 1.88 | 1.89 | 2.01 | 1.85 |
|                                                                  | $t_{p,adj}$ | B    | B    | B    | B    |
| Pedestrian LOS score for intersection - 2024 Background          | $t_{p,adj}$ | 1.88 | 1.89 | 2.01 | 1.85 |
|                                                                  | $t_{p,adj}$ | B    | B    | B    | B    |
| Pedestrian LOS score for intersection - 2024 Background U-4714   | $t_{p,adj}$ | 1.88 | 1.89 | 2.01 | 1.85 |
|                                                                  | $t_{p,adj}$ | B    | B    | B    | B    |
| Pedestrian LOS score for intersection - 2029 Background          | $t_{p,adj}$ | 1.88 | 1.89 | 2.01 | 1.85 |
|                                                                  | $t_{p,adj}$ | B    | B    | B    | B    |
| Pedestrian LOS score for intersection - 2029 Background U-4714   | $t_{p,adj}$ | 1.88 | 1.89 | 2.01 | 1.85 |
|                                                                  | $t_{p,adj}$ | B    | B    | B    | B    |
| Pedestrian LOS score for intersection - 2034 Background          | $t_{p,adj}$ | 1.88 | 1.89 | 2.01 | 1.85 |
|                                                                  | $t_{p,adj}$ | B    | B    | B    | B    |
| Pedestrian LOS score for intersection - 2034 Background U-4714   | $t_{p,adj}$ | 1.88 | 1.89 | 2.01 | 1.85 |
|                                                                  | $t_{p,adj}$ | B    | B    | B    | B    |
| Pedestrian LOS score for intersection - 2029 Build Phase 2 Alt 1 | $t_{p,adj}$ | 1.88 | 1.89 | 2.01 | 1.85 |
|                                                                  | $t_{p,adj}$ | B    | B    | B    | B    |
| Pedestrian LOS score for intersection - 2029 Build Phase 2 Alt 2 | $t_{p,adj}$ | 1.88 | 1.89 | 2.01 | 1.85 |
|                                                                  | $t_{p,adj}$ | B    | B    | B    | B    |
| Pedestrian LOS score for intersection - 2029 Build Phase 2 Alt 3 | $t_{p,adj}$ | 1.88 | 1.89 | 2.01 | 1.85 |
|                                                                  | $t_{p,adj}$ | B    | B    | B    | B    |
| Pedestrian LOS score for intersection - 2029 Build Phase 2 Alt 4 | $t_{p,adj}$ | 1.88 | 1.89 | 2.01 | 1.85 |
|                                                                  | $t_{p,adj}$ | B    | B    | B    | B    |
| Pedestrian LOS score for intersection - 2034 Build Phase 2 Alt 1 | $t_{p,adj}$ | 1.88 | 1.89 | 2.01 | 1.85 |
|                                                                  | $t_{p,adj}$ | B    | B    | B    | B    |
| Pedestrian LOS score for intersection - 2034 Build Phase 2 Alt 2 | $t_{p,adj}$ | 1.88 | 1.89 | 2.01 | 1.85 |
|                                                                  | $t_{p,adj}$ | B    | B    | B    | B    |
| Pedestrian LOS score for intersection - 2034 Build Phase 2 Alt 3 | $t_{p,adj}$ | 1.88 | 1.89 | 2.01 | 1.85 |
|                                                                  | $t_{p,adj}$ | B    | B    | B    | B    |
| Pedestrian LOS score for intersection - 2034 Build Phase 2 Alt 4 | $t_{p,adj}$ | 1.88 | 1.89 | 2.01 | 1.85 |
|                                                                  | $t_{p,adj}$ | B    | B    | B    | B    |



Stallings Road and Matthews-Indian Trail Road

| PM PEAK HOUR                                    |                      |                      |                      |                      |
|-------------------------------------------------|----------------------|----------------------|----------------------|----------------------|
|                                                 | Crossing NB Approach | Crossing SB Approach | Crossing EB Approach | Crossing WB Approach |
|                                                 | Major                | Major                | Minor                | Minor                |
| Ped Phase                                       | N                    | N                    | N                    | N                    |
| Speed Limit (85 <sup>th</sup> Percentile Speed) | 35                   | 35                   | 45                   | 35                   |
| Cycle Length (sec)                              | C                    | 60                   |                      |                      |
| Duration of phase for through movement          | D <sub>THRU</sub>    | 15                   | 15                   | 45                   |
| Yellow time for minor-street through movement   | Y <sub>MIN</sub>     | 3.6                  | 4.2                  | 3.6                  |
| Red time for minor-street through movement      | R <sub>MIN</sub>     | 1.7                  | 1.7                  | 1.7                  |
| Walk Time                                       | Walk <sub>MIN</sub>  | 0                    | 0                    | 7                    |
| Crosswalk Length                                | L <sub>W</sub>       | 70                   | 60                   | 100                  |
| Number of lanes crossed                         | N <sub>L</sub>       | 3                    | 3                    | 3                    |
| Number of right-turn channelizing islands       | N <sub>RII</sub>     | 0                    | 0                    | 0                    |
| Walking Speed (ft/sec)                          | S <sub>P</sub>       |                      | 3.5                  |                      |

|                                                                                            |                 |   |   |   |   |
|--------------------------------------------------------------------------------------------|-----------------|---|---|---|---|
| flow rate of peds arriving at the corner after crossing minor street (ped/hr)              | V <sub>ap</sub> | 0 | 0 | 0 | 0 |
| flow rate of peds arriving at the corner to cross minor street (ped/hr)                    | V <sub>ap</sub> | 0 | 0 | 0 | 0 |
| flow rate of peds arriving at the corner after crossing major street (ped/hr)              | V <sub>ap</sub> | 1 | 0 | 1 | 0 |
| flow rate of peds arriving at the corner to cross major street (ped/hr)                    | V <sub>ap</sub> | 0 | 1 | 0 | 1 |
| flow rate of peds traveling through the corner from Sidewalk A to Sidewalk B or vice versa | V <sub>ap</sub> | 1 | 1 | 1 | 1 |

|                                                                                                   |                    |        |        |       |       |
|---------------------------------------------------------------------------------------------------|--------------------|--------|--------|-------|-------|
| Count of vehicles traveling on major/minor street during 15 min period - Existing                 | P <sub>15min</sub> | 94.42  | 93.83  | 21.92 | 27.33 |
| Count of vehicles traveling on major/minor street during 15 min period - 2022 Background          | P <sub>15min</sub> | 138.83 | 140.00 | 29.50 | 52.17 |
| Count of vehicles traveling on major/minor street during 15 min period - 2022 Build               | P <sub>15min</sub> | 140.67 | 142.75 | 29.50 | 53.08 |
| Count of vehicles traveling on major/minor street during 15 min period - 2027 Build               | P <sub>15min</sub> | 163.17 | 165.08 | 34.75 | 59.67 |
| Count of vehicles traveling on major/minor street during 15 min period - 2021 Build Phase 1 Alt 3 | P <sub>15min</sub> | 0.00   | 0.00   | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2021 Build Phase 1 Alt 4 | P <sub>15min</sub> | 0.00   | 0.00   | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2024 Background          | P <sub>15min</sub> | 0.00   | 0.00   | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2029 Background U-4714   | P <sub>15min</sub> | 0.00   | 0.00   | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2024 Build Phase 2 Alt 1 | P <sub>15min</sub> | 0.00   | 0.00   | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2024 Build Phase 2 Alt 2 | P <sub>15min</sub> | 0.00   | 0.00   | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2024 Build Phase 2 Alt 3 | P <sub>15min</sub> | 0.00   | 0.00   | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2029 Background          | P <sub>15min</sub> | 0.00   | 0.00   | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2029 Background U-4714   | P <sub>15min</sub> | 0.00   | 0.00   | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2034 Background          | P <sub>15min</sub> | 0.00   | 0.00   | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2034 Background U-4714   | P <sub>15min</sub> | 0.00   | 0.00   | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2029 Build Phase 3 Alt 1 | P <sub>15min</sub> | 0.00   | 0.00   | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2029 Build Phase 3 Alt 2 | P <sub>15min</sub> | 0.00   | 0.00   | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2029 Build Phase 3 Alt 3 | P <sub>15min</sub> | 0.00   | 0.00   | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2029 Build Phase 3 Alt 4 | P <sub>15min</sub> | 0.00   | 0.00   | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2034 Build Alt 1         | P <sub>15min</sub> | 0.00   | 0.00   | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2034 Build Alt 2         | P <sub>15min</sub> | 0.00   | 0.00   | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2034 Build Alt 3         | P <sub>15min</sub> | 0.00   | 0.00   | 0.00  | 0.00  |
| Count of vehicles traveling on major/minor street during 15 min period - 2034 Build Alt 4         | P <sub>15min</sub> | 0.00   | 0.00   | 0.00  | 0.00  |

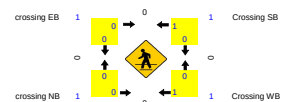
|                                          |                           |      |      |      |    |
|------------------------------------------|---------------------------|------|------|------|----|
| Effective walk time for through movement | Q <sub>walk,eff,min</sub> | 13.7 | 13.3 | 35.7 | 11 |
|------------------------------------------|---------------------------|------|------|------|----|

| Adjustment Factors              |       |        |        |        |        |
|---------------------------------|-------|--------|--------|--------|--------|
| Pedestrian delay (sec/ped)      | $d_p$ | 17.86  | 18.17  | 4.92   | 20.01  |
| Cross section adjustment factor | $F_w$ | 1.1978 | 1.1978 | 1.1978 | 1.1978 |

|                                                                       |                |        |        |        |        |
|-----------------------------------------------------------------------|----------------|--------|--------|--------|--------|
| Motorized vehicle volume adjustment factor - Existing                 | F <sub>v</sub> | 0.064  | 0.0299 | 0.0413 | 0.101  |
| Motorized vehicle volume adjustment factor - 2022 Background          | F <sub>v</sub> | 0.1593 | 0.0441 | 0.0526 | 0.1892 |
| Motorized vehicle volume adjustment factor - 2022 Build               | F <sub>v</sub> | 0.1593 | 0.0441 | 0.0526 | 0.1949 |
| Motorized vehicle volume adjustment factor - 2027 Build               | F <sub>v</sub> | 0.175  | 0.0512 | 0.0626 | 0.2191 |
| Motorized vehicle volume adjustment factor - 2021 Build Phase 1 Alt 3 | F <sub>v</sub> | 0      | 0      | 0      | 0      |
| Motorized vehicle volume adjustment factor - 2021 Build Phase 1 Alt 4 | F <sub>v</sub> | 0      | 0      | 0      | 0      |
| Motorized vehicle volume adjustment factor - 2024 Background          | F <sub>v</sub> | 0      | 0      | 0      | 0      |
| Motorized vehicle volume adjustment factor - 2024 Background U-4714   | F <sub>v</sub> | 0      | 0      | 0      | 0      |
| Motorized vehicle volume adjustment factor - 2024 Build Phase 2 Alt 1 | F <sub>v</sub> | 0      | 0      | 0      | 0      |
| Motorized vehicle volume adjustment factor - 2024 Build Phase 2 Alt 2 | F <sub>v</sub> | 0      | 0      | 0      | 0      |
| Motorized vehicle volume adjustment factor - 2024 Build Phase 2 Alt 3 | F <sub>v</sub> | 0      | 0      | 0      | 0      |
| Motorized vehicle volume adjustment factor - 2024 Build Phase 2 Alt 4 | F <sub>v</sub> | 0      | 0      | 0      | 0      |
| Motorized vehicle volume adjustment factor - 2029 Background          | F <sub>v</sub> | 0      | 0      | 0      | 0      |
| Motorized vehicle volume adjustment factor - 2029 Background U-4714   | F <sub>v</sub> | 0      | 0      | 0      | 0      |
| Motorized vehicle volume adjustment factor - 2034 Background          | F <sub>v</sub> | 0      | 0      | 0      | 0      |
| Motorized vehicle volume adjustment factor - 2034 Background U-4714   | F <sub>v</sub> | 0      | 0      | 0      | 0      |
| Motorized vehicle volume adjustment factor - 2029 Build Phase 3 Alt 1 | F <sub>v</sub> | 0      | 0      | 0      | 0      |
| Motorized vehicle volume adjustment factor - 2029 Build Phase 3 Alt 2 | F <sub>v</sub> | 0      | 0      | 0      | 0      |
| Motorized vehicle volume adjustment factor - 2029 Build Phase 3 Alt 3 | F <sub>v</sub> | 0      | 0      | 0      | 0      |
| Motorized vehicle volume adjustment factor - 2029 Build Phase 3 Alt 4 | F <sub>v</sub> | 0      | 0      | 0      | 0      |
| Motorized vehicle volume adjustment factor - 2034 Build Alt 1         | F <sub>v</sub> | 0      | 0      | 0      | 0      |
| Motorized vehicle volume adjustment factor - 2034 Build Alt 2         | F <sub>v</sub> | 0      | 0      | 0      | 0      |
| Motorized vehicle volume adjustment factor - 2034 Build Alt 3         | F <sub>v</sub> | 0      | 0      | 0      | 0      |
| Motorized vehicle volume adjustment factor - 2034 Build Alt 4         | F <sub>v</sub> | 0      | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - Existing                  | F <sub>s</sub> | 0.43   | 0.43   | 0.13   | 0.12   |
| Motorized vehicle speed adjustment factor - 2021 Background           | F <sub>s</sub> | 0.63   | 0.64   | 0.17   | 0.24   |
| Motorized vehicle speed adjustment factor - 2021 Build Phase 1 Alt 1  | F <sub>s</sub> | 0.64   | 0.65   | 0.17   | 0.24   |
| Motorized vehicle speed adjustment factor - 2021 Build Phase 1 Alt 2  | F <sub>s</sub> | 0.74   | 0.75   | 0.2    | 0.27   |
| Motorized vehicle speed adjustment factor - 2021 Build Phase 1 Alt 3  | F <sub>s</sub> | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2021 Build Phase 1 Alt 4  | F <sub>s</sub> | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2024 Background           | F <sub>s</sub> | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2024 Background U-4714    | F <sub>s</sub> | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2024 Build Phase 2 Alt 1  | F <sub>s</sub> | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2024 Build Phase 2 Alt 2  | F <sub>s</sub> | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2024 Build Phase 2 Alt 3  | F <sub>s</sub> | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2024 Build Phase 2 Alt 4  | F <sub>s</sub> | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2029 Background           | F <sub>s</sub> | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2029 Background U-4714    | F <sub>s</sub> | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2034 Background           | F <sub>s</sub> | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2034 Background U-4714    | F <sub>s</sub> | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2029 Build Phase 3 Alt 1  | F <sub>s</sub> | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2029 Build Phase 3 Alt 2  | F <sub>s</sub> | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2029 Build Phase 3 Alt 3  | F <sub>s</sub> | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2029 Build Phase 3 Alt 4  | F <sub>s</sub> | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2034 Build Phase 3 Alt 1  | F <sub>s</sub> | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2034 Build Phase 3 Alt 2  | F <sub>s</sub> | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2034 Build Phase 3 Alt 3  | F <sub>s</sub> | 0.00   | 0      | 0      | 0      |
| Motorized vehicle speed adjustment factor - 2034 Build Phase 3 Alt 4  | F <sub>s</sub> | 0.00   | 0      | 0      | 0      |
| Pedestrian delay adjustment factor                                    | F <sub>d</sub> | 0.08   | 0.08   | 0.21   | 0.05   |

|                 | NBL | NBT | NBR | NBU | NBL | SBT | SBR | SBU | EBL | EBT | EBR | EBU | WBL | WBT | WBR | WBU |
|-----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 2020 Existing   | 29  | 462 | 42  | 0   | 71  | 451 | 30  | 0   | 21  | 54  | 104 | 0   | 45  | 25  | 91  | 0   |
| 2027 Background | 37  | 650 | 91  | 0   | 133 | 644 | 43  | 0   | 31  | 79  | 132 | 0   | 112 | 38  | 179 | 0   |
| 2027 Build      | 37  | 664 | 91  | 0   | 137 | 652 | 43  | 0   | 31  | 79  | 132 | 0   | 112 | 38  | 186 | 0   |
| 2022 Build      | 44  | 774 | 101 | 0   | 154 | 799 | 50  | 0   | 36  | 86  | 157 | 0   | 123 | 44  | 208 | 0   |

| LOS | LOS Score | From HCM 6 |
|-----|-----------|------------|
| A   | 1.50      |            |
| B   | 2.50      |            |
| C   | 3.50      |            |
| D   | 4.50      |            |
| E   | 5.50      |            |
| F   | >5.50     |            |



| Results                                                          |                 |      |      |      |      |
|------------------------------------------------------------------|-----------------|------|------|------|------|
| Pedestrian LOS score for intersection - Existing                 | t <sub>90</sub> | 2.37 | 2.34 | 2.18 | 2.07 |
|                                                                  | LOS             | B    | B    | B    | B    |
| Pedestrian LOS score for intersection - 2022 Background          | t <sub>90</sub> | 2.67 | 2.56 | 2.23 | 2.28 |
|                                                                  | LOS             | C    | C    | B    | B    |
| Pedestrian LOS score for intersection - 2022 Build               | t <sub>90</sub> | 2.68 | 2.57 | 2.23 | 2.28 |
|                                                                  | LOS             | C    | C    | B    | B    |
| Pedestrian LOS score for intersection - 2027 Build               | t <sub>90</sub> | 2.79 | 2.68 | 2.27 | 2.34 |
|                                                                  | LOS             | C    | C    | B    | B    |
| Pedestrian LOS score for intersection - 2021 Build Phase 1 Alt 3 | t <sub>90</sub> | 1.88 | 1.88 | 2.01 | 1.85 |
|                                                                  | LOS             | B    | B    | B    | B    |
| Pedestrian LOS score for intersection - 2021 Build Phase 1 Alt 4 | t <sub>90</sub> | 1.88 | 1.88 | 2.01 | 1.85 |
|                                                                  | LOS             | B    | B    | B    | B    |
| Pedestrian LOS score for intersection - 2024 Background          | t <sub>90</sub> | 1.88 | 1.88 | 2.01 | 1.85 |
|                                                                  | LOS             | B    | B    | B    | B    |
| Pedestrian LOS score for intersection - 2024 Background U-4714   | t <sub>90</sub> | 1.88 | 1.88 | 2.01 | 1.85 |
|                                                                  | LOS             | B    | B    | B    | B    |
| Pedestrian LOS score for intersection - 2029 Background          | t <sub>90</sub> | 1.88 | 1.88 | 2.01 | 1.85 |
|                                                                  | LOS             | B    | B    | B    | B    |
| Pedestrian LOS score for intersection - 2029 Background U-4714   | t <sub>90</sub> | 1.88 | 1.88 | 2.01 | 1.85 |
|                                                                  | LOS             | B    | B    | B    | B    |
| Pedestrian LOS score for intersection - 2034 Background          | t <sub>90</sub> | 1.88 | 1.88 | 2.01 | 1.85 |
|                                                                  | LOS             | B    | B    | B    | B    |
| Pedestrian LOS score for intersection - 2034 Background U-4714   | t <sub>90</sub> | 1.88 | 1.88 | 2.01 | 1.85 |
|                                                                  | LOS             | B    | B    | B    | B    |
| Pedestrian LOS score for intersection - 2029 Build Phase 2 Alt 1 | t <sub>90</sub> | 1.88 | 1.88 | 2.01 | 1.85 |
|                                                                  | LOS             | B    | B    | B    | B    |
| Pedestrian LOS score for intersection - 2029 Build Phase 2 Alt 2 | t <sub>90</sub> | 1.88 | 1.88 | 2.01 | 1.85 |
|                                                                  | LOS             | B    | B    | B    | B    |
| Pedestrian LOS score for intersection - 2029 Build Phase 2 Alt 3 | t <sub>90</sub> | 1.88 | 1.88 | 2.01 | 1.85 |
|                                                                  | LOS             | B    | B    | B    | B    |
| Pedestrian LOS score for intersection - 2029 Build Phase 2 Alt 4 | t <sub>90</sub> | 1.88 | 1.88 | 2.01 | 1.85 |
|                                                                  | LOS             | B    | B    | B    | B    |
| Pedestrian LOS score for intersection - 2034 Build Phase 2 Alt 1 | t <sub>90</sub> | 1.88 | 1.88 | 2.01 | 1.85 |
|                                                                  | LOS             | B    | B    | B    | B    |
| Pedestrian LOS score for intersection - 2034 Build Phase 2 Alt 2 | t <sub>90</sub> | 1.88 | 1.88 | 2.01 | 1.85 |
|                                                                  | LOS             | B    | B    | B    | B    |
| Pedestrian LOS score for intersection - 2034 Build Phase 2 Alt 3 | t <sub>90</sub> | 1.88 | 1.88 | 2.01 | 1.85 |
|                                                                  | LOS             | B    | B    | B    | B    |
| Pedestrian LOS score for intersection - 2034 Build Phase 2 Alt 4 | t <sub>90</sub> | 1.88 | 1.88 | 2.01 | 1.85 |
|                                                                  | LOS             | B    | B    | B    | B    |



| Stallings Road and Silvers Mill Road   |                      |                      |                      |                      |  |
|----------------------------------------|----------------------|----------------------|----------------------|----------------------|--|
| AM PEAK HOUR                           |                      |                      |                      |                      |  |
|                                        | Crossing NB Approach | Crossing SB Approach | Crossing EB Approach | Crossing WB Approach |  |
| Major Street (Front Flow)              |                      |                      |                      |                      |  |
| Crosswalk Length (ft)                  | L 44                 | 35                   | 40                   | 72                   |  |
| Walking Speed (ft/sec)                 | S <sub>w</sub> 3.5   | 3.5                  | 3.5                  | 3.5                  |  |
| Start-Up Time                          | t <sub>s</sub> 3     | 3                    | 3                    | 3                    |  |
| Critical Headway                       | h <sub>c</sub> 15.57 | 18.73                | 16.14                | 23.57                |  |
| 2 Stage Crossings? (Median > Y or N)   | N                    | N                    | N                    | N                    |  |
| Yielding Vehicles? (Supplene < Y or N) | N                    | N                    | N                    | N                    |  |

| 2020 Existing Traffic           |                       |       |       |       |  |
|---------------------------------|-----------------------|-------|-------|-------|--|
| Probability of Blocked Lane     | P <sub>b</sub> 49%    | 52%   | 27%   | 49%   |  |
| Probability of Delayed Crossing | P <sub>d</sub> 74%    | 77%   | 60%   | 74%   |  |
| Average Gap Delay               | d <sub>g</sub> 15.13  | 24.23 | 10.53 | 26.68 |  |
| Non-zero Delay                  | d <sub>np</sub> 21.38 | 31.48 | 17.46 | 36.06 |  |

| 2027 Background Traffic         |                       |       |       |       |  |
|---------------------------------|-----------------------|-------|-------|-------|--|
| Probability of Blocked Lane     | P <sub>b</sub> 56%    | 63%   | 50%   | 63%   |  |
| Probability of Delayed Crossing | P <sub>d</sub> 81%    | 86%   | 70%   | 86%   |  |
| Average Gap Delay               | d <sub>g</sub> 24.19  | 40.53 | 18.40 | 51.58 |  |
| Non-zero Delay                  | d <sub>np</sub> 30.00 | 46.94 | 24.53 | 59.76 |  |

| 2027 Buildout Total             |                       |       |       |       |  |
|---------------------------------|-----------------------|-------|-------|-------|--|
| Probability of Blocked Lane     | P <sub>b</sub> 58%    | 65%   | 50%   | 63%   |  |
| Probability of Delayed Crossing | P <sub>d</sub> 82%    | 88%   | 70%   | 86%   |  |
| Average Gap Delay               | d <sub>g</sub> 26.09  | 44.06 | 18.40 | 51.58 |  |
| Non-zero Delay                  | d <sub>np</sub> 31.68 | 50.21 | 24.53 | 59.76 |  |

| 2032 Buildout Total             |                       |       |       |       |  |
|---------------------------------|-----------------------|-------|-------|-------|--|
| Probability of Blocked Lane     | P <sub>b</sub> 64%    | 70%   | 50%   | 69%   |  |
| Probability of Delayed Crossing | P <sub>d</sub> 87%    | 91%   | 80%   | 90%   |  |
| Average Gap Delay               | d <sub>g</sub> 34.97  | 61.22 | 24.65 | 76.25 |  |
| Non-zero Delay                  | d <sub>np</sub> 40.18 | 67.27 | 29.66 | 77.83 |  |

| 2034 Buildout Total - Phase 1 AB 2 |                       |       |       |       |  |
|------------------------------------|-----------------------|-------|-------|-------|--|
| Probability of Blocked Lane        | P <sub>b</sub> 52%    | 59%   | 41%   | 54%   |  |
| Probability of Delayed Crossing    | P <sub>d</sub> 87%    | 91%   | 80%   | 90%   |  |
| Average Gap Delay                  | d <sub>g</sub> 20.21  | 33.22 | 12.63 | 32.93 |  |
| Non-zero Delay                     | d <sub>np</sub> 23.22 | 36.51 | 15.84 | 36.43 |  |

| 2034 Buildout Total - Phase 1 AB 3 |                       |       |       |       |  |
|------------------------------------|-----------------------|-------|-------|-------|--|
| Probability of Blocked Lane        | P <sub>b</sub> 52%    | 59%   | 41%   | 54%   |  |
| Probability of Delayed Crossing    | P <sub>d</sub> 87%    | 91%   | 80%   | 90%   |  |
| Average Gap Delay                  | d <sub>g</sub> 20.21  | 33.22 | 12.63 | 32.93 |  |
| Non-zero Delay                     | d <sub>np</sub> 23.22 | 36.51 | 15.84 | 36.43 |  |

| 2034 Buildout Total - Phase 1 AB 4 |                       |       |       |       |  |
|------------------------------------|-----------------------|-------|-------|-------|--|
| Probability of Blocked Lane        | P <sub>b</sub> 52%    | 59%   | 41%   | 54%   |  |
| Probability of Delayed Crossing    | P <sub>d</sub> 87%    | 91%   | 80%   | 90%   |  |
| Average Gap Delay                  | d <sub>g</sub> 20.21  | 33.22 | 12.63 | 32.93 |  |
| Non-zero Delay                     | d <sub>np</sub> 23.22 | 36.51 | 15.84 | 36.43 |  |

| 2021 Buildout Total - Phase 1 AB 1 |                       |       |       |       |  |
|------------------------------------|-----------------------|-------|-------|-------|--|
| Probability of Blocked Lane        | P <sub>b</sub> 48%    | 55%   | 38%   | 51%   |  |
| Probability of Delayed Crossing    | P <sub>d</sub> 73%    | 80%   | 62%   | 76%   |  |
| Average Gap Delay                  | d <sub>g</sub> 16.78  | 27.10 | 11.02 | 28.11 |  |
| Non-zero Delay                     | d <sub>np</sub> 23.00 | 33.98 | 17.90 | 36.99 |  |

| 2021 Buildout Total - Phase 1 AB 2 |                       |       |       |       |  |
|------------------------------------|-----------------------|-------|-------|-------|--|
| Probability of Blocked Lane        | P <sub>b</sub> 48%    | 55%   | 38%   | 51%   |  |
| Probability of Delayed Crossing    | P <sub>d</sub> 73%    | 80%   | 62%   | 76%   |  |
| Average Gap Delay                  | d <sub>g</sub> 16.78  | 27.10 | 11.02 | 28.11 |  |
| Non-zero Delay                     | d <sub>np</sub> 23.00 | 33.98 | 17.90 | 36.99 |  |

| 2021 Buildout Total - Phase 1 AB 3 |                       |       |       |       |  |
|------------------------------------|-----------------------|-------|-------|-------|--|
| Probability of Blocked Lane        | P <sub>b</sub> 48%    | 55%   | 38%   | 51%   |  |
| Probability of Delayed Crossing    | P <sub>d</sub> 73%    | 80%   | 62%   | 76%   |  |
| Average Gap Delay                  | d <sub>g</sub> 16.78  | 27.10 | 11.02 | 28.11 |  |
| Non-zero Delay                     | d <sub>np</sub> 23.00 | 33.98 | 17.90 | 36.99 |  |

| 2021 Buildout Total - Phase 1 AB 4 |                       |       |       |       |  |
|------------------------------------|-----------------------|-------|-------|-------|--|
| Probability of Blocked Lane        | P <sub>b</sub> 48%    | 55%   | 38%   | 51%   |  |
| Probability of Delayed Crossing    | P <sub>d</sub> 73%    | 80%   | 62%   | 76%   |  |
| Average Gap Delay                  | d <sub>g</sub> 16.78  | 27.10 | 11.02 | 28.11 |  |
| Non-zero Delay                     | d <sub>np</sub> 23.00 | 33.98 | 17.90 | 36.99 |  |

| 2029 Buildout Total - Phase 3 AB 1 |                       |       |       |       |  |
|------------------------------------|-----------------------|-------|-------|-------|--|
| Probability of Blocked Lane        | P <sub>b</sub> 59%    | 66%   | 47%   | 60%   |  |
| Probability of Delayed Crossing    | P <sub>d</sub> 73%    | 80%   | 62%   | 76%   |  |
| Average Gap Delay                  | d <sub>g</sub> 27.37  | 46.49 | 16.39 | 44.85 |  |
| Non-zero Delay                     | d <sub>np</sub> 37.51 | 58.29 | 26.62 | 59.02 |  |

| 2029 Buildout Total - Phase 3 AB 2 |                       |       |       |       |  |
|------------------------------------|-----------------------|-------|-------|-------|--|
| Probability of Blocked Lane        | P <sub>b</sub> 59%    | 66%   | 47%   | 60%   |  |
| Probability of Delayed Crossing    | P <sub>d</sub> 87%    | 91%   | 80%   | 90%   |  |
| Average Gap Delay                  | d <sub>g</sub> 27.37  | 46.49 | 16.39 | 44.85 |  |
| Non-zero Delay                     | d <sub>np</sub> 31.45 | 51.09 | 20.55 | 49.62 |  |

| 2029 Buildout Total - Phase 3 AB 3 |                       |       |       |       |  |
|------------------------------------|-----------------------|-------|-------|-------|--|
| Probability of Blocked Lane        | P <sub>b</sub> 59%    | 66%   | 47%   | 60%   |  |
| Probability of Delayed Crossing    | P <sub>d</sub> 87%    | 91%   | 80%   | 90%   |  |
| Average Gap Delay                  | d <sub>g</sub> 27.37  | 46.49 | 16.39 | 44.85 |  |
| Non-zero Delay                     | d <sub>np</sub> 31.45 | 51.09 | 20.55 | 49.62 |  |

| 2029 Buildout Total - Phase 3 AB 4 |                       |       |       |       |  |
|------------------------------------|-----------------------|-------|-------|-------|--|
| Probability of Blocked Lane        | P <sub>b</sub> 59%    | 66%   | 47%   | 60%   |  |
| Probability of Delayed Crossing    | P <sub>d</sub> 87%    | 91%   | 80%   | 90%   |  |
| Average Gap Delay                  | d <sub>g</sub> 27.37  | 46.49 | 16.39 | 44.85 |  |
| Non-zero Delay                     | d <sub>np</sub> 31.45 | 51.09 | 20.55 | 49.62 |  |

| 2034 Buildout Total - Phase 3 AB 1 |                       |       |       |       |  |
|------------------------------------|-----------------------|-------|-------|-------|--|
| Probability of Blocked Lane        | P <sub>b</sub> 65%    | 71%   | 53%   | 67%   |  |
| Probability of Delayed Crossing    | P <sub>d</sub> 88%    | 92%   | 78%   | 89%   |  |
| Average Gap Delay                  | d <sub>g</sub> 37.03  | 65.32 | 21.38 | 62.03 |  |
| Non-zero Delay                     | d <sub>np</sub> 42.20 | 71.32 | 27.44 | 69.61 |  |

| 2034 Buildout Total - Phase 3 AB 2 |                       |       |       |       |  |
|------------------------------------|-----------------------|-------|-------|-------|--|
| Probability of Blocked Lane        | P <sub>b</sub> 65%    | 71%   | 53%   | 67%   |  |
| Probability of Delayed Crossing    | P <sub>d</sub> 88%    | 92%   | 78%   | 89%   |  |
| Average Gap Delay                  | d <sub>g</sub> 37.03  | 65.32 | 21.38 | 62.03 |  |
| Non-zero Delay                     | d <sub>np</sub> 42.20 | 71.32 | 27.44 | 69.61 |  |

| 2034 Buildout Total - Phase 3 AB 3 |                       |       |       |       |  |
|------------------------------------|-----------------------|-------|-------|-------|--|
| Probability of Blocked Lane        | P <sub>b</sub> 65%    | 71%   | 53%   | 67%   |  |
| Probability of Delayed Crossing    | P <sub>d</sub> 88%    | 92%   | 78%   | 89%   |  |
| Average Gap Delay                  | d <sub>g</sub> 37.03  | 65.32 | 21.38 | 62.03 |  |
| Non-zero Delay                     | d <sub>np</sub> 42.20 | 71.32 | 27.44 | 69.61 |  |

| 2034 Buildout Total - Phase 3 AB 4 |                       |       |       |       |  |
|------------------------------------|-----------------------|-------|-------|-------|--|
| Probability of Blocked Lane        | P <sub>b</sub> 65%    | 71%   | 53%   | 67%   |  |
| Probability of Delayed Crossing    | P <sub>d</sub> 88%    | 92%   | 78%   | 89%   |  |
| Average Gap Delay                  | d <sub>g</sub> 37.03  | 65.32 | 21.38 | 62.03 |  |
| Non-zero Delay                     | d <sub>np</sub> 42.20 | 71.32 | 27.44 | 69.61 |  |

| 2021 Background Traffic         |                       |       |       |       |  |
|---------------------------------|-----------------------|-------|-------|-------|--|
| Probability of Blocked Lane     | P <sub>b</sub> 47%    | 54%   | 39%   | 51%   |  |
| Probability of Delayed Crossing | P <sub>d</sub> 72%    | 79%   | 62%   | 76%   |  |
| Average Gap Delay               | d <sub>g</sub> 16.02  | 26.78 | 11.02 | 28.11 |  |
| Non-zero Delay                  | d <sub>np</sub> 34.09 | 47.74 | 29.00 | 55.12 |  |

| 2029 Background Traffic         |                       |       |       |       |  |
|---------------------------------|-----------------------|-------|-------|-------|--|
| Probability of Blocked Lane     | P <sub>b</sub> 57%    | 64%   | 47%   | 60%   |  |
| Probability of Delayed Crossing | P <sub>d</sub> 82%    | 87%   | 72%   | 84%   |  |
| Average Gap Delay               | d <sub>g</sub> 25.07  | 42.15 | 16.39 | 44.85 |  |
| Non-zero Delay                  | d <sub>np</sub> 43.98 | 65.86 | 34.87 | 74.75 |  |

| 2029 Background Traffic with Superstreet (AB 1 & 3) |                       |       |       |       |  |
|-----------------------------------------------------|-----------------------|-------|-------|-------|--|
| Probability of Blocked Lane                         | P <sub>b</sub> 51%    | 57%   | 41%   | 54%   |  |
| Probability of Delayed Crossing                     | P <sub>d</sub> 76%    | 81%   | 65%   | 79%   |  |
| Average Gap Delay                                   | d <sub>g</sub> 19.89  | 30.79 | 12.63 | 32.93 |  |
| Non-zero Delay                                      | d <sub>np</sub> 36.86 | 53.86 | 30.80 | 60.98 |  |

| 2034 Background Traffic         |                       |       |       |       |  |
|---------------------------------|-----------------------|-------|-------|-------|--|
| Probability of Blocked Lane     | P <sub>b</sub> 63%    | 70%   | 53%   | 67%   |  |
| Probability of Delayed Crossing | P <sub>d</sub> 86%    | 91%   | 78%   | 89%   |  |
| Average Gap Delay               | d <sub>g</sub> 34.12  | 59.53 | 21.38 | 62.03 |  |
| Non-zero Delay                  | d <sub>np</sub> 54.16 | 85.04 | 40.34 | 92.58 |  |

| 2034 Background Traffic with Superstreet (AB 1 & 3) |                       |       |       |       |  |
|-----------------------------------------------------|-----------------------|-------|-------|-------|--|
| Probability of Blocked Lane                         | P <sub>b</sub> 63%    | 70%   | 53%   | 67%   |  |
| Probability of Delayed Crossing                     | P <sub>d</sub> 86%    | 91%   | 78%   | 89%   |  |
| Average Gap Delay                                   | d <sub>g</sub> 34.12  | 59.53 | 21.38 | 62.03 |  |
| Non-zero Delay                                      | d <sub>np</sub> 54.16 | 85.04 | 40.34 | 92.58 |  |

|                                         |         | 2020 Existing Traffic |      |      |      | 2027 Background Traffic |      |      |      | 2027 Buildout Total |      |      |      | 2032 Buildout Total |      |      |      | 2024 Buildout Total - Phase 1 AB 2 |      |      |      | 2024 Buildout Total - Phase 1 AB 3 |      |      |      | 2024 Buildout Total - Phase 1 AB 4 |      |      |      | 2021 Background Traffic |      |      |      |
|-----------------------------------------|---------|-----------------------|------|------|------|-------------------------|------|------|------|---------------------|------|------|------|---------------------|------|------|------|------------------------------------|------|------|------|------------------------------------|------|------|------|------------------------------------|------|------|------|-------------------------|------|------|------|
|                                         |         | NB                    | SB   | EB   | WB   | NB                      | SB   | EB   | WB   | NB                  | SB   | EB   | WB   | NB                  | SB   | EB   | WB   | NB                                 | SB   | EB   | WB   | NB                                 | SB   | EB   | WB   | NB                                 | SB   | EB   | WB   | NB                      | SB   | EB   | WB   |
| Volume                                  | 1 Stage | 285                   | 285  | 208  | 208  | 382                     | 382  | 305  | 305  | 399                 | 399  | 305  | 305  | 468                 | 468  | 356  | 356  | 343                                | 343  | 237  | 237  | 343                                | 343  | 237  | 237  | 343                                | 343  | 237  | 237  | 286                     | 286  | 215  | 215  |
|                                         | 2 Stage |                       |      |      |      |                         |      |      |      |                     |      |      |      |                     |      |      |      |                                    |      |      |      |                                    |      |      |      |                                    |      |      |      |                         |      |      |      |
|                                         | 4 Stage |                       |      |      |      |                         |      |      |      |                     |      |      |      |                     |      |      |      |                                    |      |      |      |                                    |      |      |      |                                    |      |      |      |                         |      |      |      |
| Conflicting veh flow rate (veh/sec) (v) |         | 0.08                  | 0.08 | 0.06 | 0.06 | 0.11                    | 0.11 | 0.08 | 0.08 | 0.11                | 0.11 | 0.08 | 0.08 | 0.13                | 0.13 | 0.10 | 0.10 | 0.10                               | 0.10 | 0.07 | 0.07 | 0.10                               | 0.10 | 0.07 | 0.07 | 0.10                               | 0.10 | 0.07 | 0.07 | 0.08                    | 0.08 | 0.06 | 0.06 |
| No. of lanes crossed                    |         | 2                     | 2    | 2    | 2    | 2                       | 2    | 2    | 2    | 2                   | 2    | 2    | 2    | 2                   | 2    | 2    | 2    | 2                                  | 2    | 2    | 2    | 2                                  | 2    | 2    | 2    | 2                                  | 2    | 2    | 2    | 2                       | 2    | 2    |      |

|                                          |         | 2021 Buildout Total - Phase 1 AB 1 |      |      |      | 2021 Buildout Total - Phase 1 AB 2 |      |      |      | 2021 Buildout Total - Phase 1 AB 3 |      |      |      | 2021 Buildout Total - Phase 1 AB 4 |      |      |      | 2029 Buildout Total - Phase 1 AB 1 |      |      |      | 2029 Buildout Total - Phase 1 AB 2 |      |      |      | 2029 Buildout Total - Phase 1 AB 3 |      |      |      | 2029 Buildout Total - Phase 1 AB 4 |      |      |      |
|------------------------------------------|---------|------------------------------------|------|------|------|------------------------------------|------|------|------|------------------------------------|------|------|------|------------------------------------|------|------|------|------------------------------------|------|------|------|------------------------------------|------|------|------|------------------------------------|------|------|------|------------------------------------|------|------|------|
|                                          |         | NB                                 | SB   | EB   | WB   | NB                                 | SB   | EB   | WB   | NB                                 | SB   | EB   | WB   | NB                                 | SB   | EB   | WB   | NB                                 | SB   | EB   | WB   | NB                                 | SB   | EB   | WB   | NB                                 | SB   | EB   | WB   | NB                                 | SB   | EB   | WB   |
| Volume                                   | 1 Stage | 305                                | 305  | 215  | 215  | 395                                | 395  | 215  | 215  | 395                                | 395  | 215  | 215  | 305                                | 305  | 215  | 215  | 410                                | 410  | 263  | 263  | 410                                | 410  | 263  | 263  | 410                                | 410  | 263  | 263  | 410                                | 410  | 263  | 263  |
|                                          | 2 Stage |                                    |      |      |      |                                    |      |      |      |                                    |      |      |      |                                    |      |      |      |                                    |      |      |      |                                    |      |      |      |                                    |      |      |      |                                    |      |      |      |
|                                          | 4 Stage |                                    |      |      |      |                                    |      |      |      |                                    |      |      |      |                                    |      |      |      |                                    |      |      |      |                                    |      |      |      |                                    |      |      |      |                                    |      |      |      |
| Conflicting with flow rate (veh/sec) (v) |         | 0.08                               | 0.08 | 0.06 | 0.06 | 0.08                               | 0.08 | 0.06 | 0.06 | 0.08                               | 0.08 | 0.06 | 0.06 | 0.08                               | 0.08 | 0.06 | 0.06 | 0.11                               | 0.11 | 0.08 | 0.08 | 0.11                               | 0.11 | 0.08 | 0.08 | 0.11                               | 0.11 | 0.08 | 0.08 | 0.11                               | 0.11 | 0.08 | 0.08 |
| No. of times crossed                     |         | 2                                  | 2    | 2    | 2    | 2                                  | 2    | 2    | 2    | 2                                  | 2    | 2    | 2    | 2                                  | 2    | 2    | 2    | 2                                  | 2    | 2    | 2    | 2                                  | 2    | 2    | 2    | 2                                  | 2    | 2    | 2    | 2                                  | 2    | 2    |      |

| Stallings Road and Stevens Mill Road<br>PM PEAK HOUR |                      |                      |                      |                      |       |
|------------------------------------------------------|----------------------|----------------------|----------------------|----------------------|-------|
|                                                      | Crossing NB Approach | Crossing SB Approach | Crossing EB Approach | Crossing WB Approach |       |
| Major Street (Free Flow)                             | Y                    | Y                    | Y                    | Y                    |       |
| Crosswalk Length (ft)                                | L                    | 46                   | 46                   | 46                   | 7     |
| Walking Speed (ft/sec)                               | S <sub>w</sub>       | 3.5                  | 3.5                  | 3.5                  | 3.5   |
| Start Up Time                                        | t <sub>u</sub>       | 3                    | 3                    | 3                    | 3     |
| Critical Headway                                     | t <sub>c</sub>       | 15.57                | 18.71                | 16.14                | 23.57 |
| 2 Stage Crossing? (Median > Y or N)                  | N                    | N                    | N                    | N                    |       |
| Yielding Vehicles? (Signage > Y or N)                | N                    | N                    | N                    | N                    |       |
| 2020 Existing Traffic                                |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 46%                  | 53%                  | 35%                  | 46%   |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 71%                  | 78%                  | 58%                  | 71%   |
| Average Gap Delay                                    | d <sub>g</sub>       | 15.37                | 24.65                | 9.33                 | 23.22 |
| Non-zero Delay                                       | d <sub>nz</sub>      | 21.70                | 31.64                | 16.16                | 32.78 |
| 2027 Background Traffic                              |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 51%                  | 64%                  | 48%                  | 61%   |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 82%                  | 87%                  | 73%                  | 85%   |
| Average Gap Delay                                    | d <sub>g</sub>       | 25.07                | 42.15                | 18.52                | 46.61 |
| Non-zero Delay                                       | d <sub>nz</sub>      | 30.76                | 48.43                | 23.19                | 54.97 |
| 2032 Buildout Total                                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 59%                  | 69%                  | 48%                  | 61%   |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 83%                  | 88%                  | 73%                  | 85%   |
| Average Gap Delay                                    | d <sub>g</sub>       | 27.49                | 46.72                | 16.92                | 46.61 |
| Non-zero Delay                                       | d <sub>nz</sub>      | 33.04                | 52.83                | 23.19                | 54.97 |
| 2034 Buildout Total - Phase 1 Alt 2                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 69%                  | 71%                  | 53%                  | 66%   |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 88%                  | 92%                  | 78%                  | 88%   |
| Average Gap Delay                                    | d <sub>g</sub>       | 36.73                | 64.72                | 21.27                | 61.66 |
| Non-zero Delay                                       | d <sub>nz</sub>      | 41.86                | 70.66                | 27.30                | 69.72 |
| 2034 Buildout Total - Phase 1 Alt 3                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 53%                  | 60%                  | 39%                  | 51%   |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 88%                  | 92%                  | 78%                  | 88%   |
| Average Gap Delay                                    | d <sub>g</sub>       | 20.88                | 34.45                | 11.38                | 29.16 |
| Non-zero Delay                                       | d <sub>nz</sub>      | 23.79                | 37.61                | 14.61                | 32.97 |
| 2034 Buildout Total - Phase 1 Alt 4                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 53%                  | 60%                  | 39%                  | 51%   |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 88%                  | 92%                  | 78%                  | 88%   |
| Average Gap Delay                                    | d <sub>g</sub>       | 20.88                | 34.45                | 11.38                | 29.16 |
| Non-zero Delay                                       | d <sub>nz</sub>      | 23.79                | 37.61                | 14.61                | 32.97 |
| 2021 Buildout Total - Phase 1 Alt 1                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 49%                  | 55%                  | 36%                  | 48%   |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 74%                  | 80%                  | 59%                  | 73%   |
| Average Gap Delay                                    | d <sub>g</sub>       | 17.12                | 27.71                | 9.86                 | 24.72 |
| Non-zero Delay                                       | d <sub>nz</sub>      | 23.14                | 34.75                | 16.70                | 33.88 |
| 2021 Buildout Total - Phase 1 Alt 2                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 49%                  | 55%                  | 36%                  | 48%   |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 74%                  | 80%                  | 59%                  | 73%   |
| Average Gap Delay                                    | d <sub>g</sub>       | 17.03                | 27.55                | 9.86                 | 24.72 |
| Non-zero Delay                                       | d <sub>nz</sub>      | 23.02                | 34.55                | 16.70                | 33.88 |
| 2021 Buildout Total - Phase 1 Alt 3                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 49%                  | 55%                  | 36%                  | 48%   |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 74%                  | 80%                  | 59%                  | 73%   |
| Average Gap Delay                                    | d <sub>g</sub>       | 17.03                | 27.55                | 9.86                 | 24.72 |
| Non-zero Delay                                       | d <sub>nz</sub>      | 23.02                | 34.55                | 16.70                | 33.88 |
| 2021 Buildout Total - Phase 1 Alt 4                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 49%                  | 55%                  | 36%                  | 48%   |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 74%                  | 80%                  | 59%                  | 73%   |
| Average Gap Delay                                    | d <sub>g</sub>       | 17.03                | 27.55                | 9.86                 | 24.72 |
| Non-zero Delay                                       | d <sub>nz</sub>      | 23.02                | 34.55                | 16.70                | 33.88 |
| 2029 Buildout Total - Phase 3 Alt 1                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 60%                  | 66%                  | 44%                  | 57%   |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 74%                  | 80%                  | 59%                  | 73%   |
| Average Gap Delay                                    | d <sub>g</sub>       | 26.46                | 48.56                | 14.52                | 38.82 |
| Non-zero Delay                                       | d <sub>nz</sub>      | 36.46                | 60.89                | 24.59                | 53.21 |
| 2029 Buildout Total - Phase 3 Alt 2                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 60%                  | 66%                  | 44%                  | 57%   |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 88%                  | 92%                  | 78%                  | 88%   |
| Average Gap Delay                                    | d <sub>g</sub>       | 28.46                | 48.56                | 14.52                | 38.82 |
| Non-zero Delay                                       | d <sub>nz</sub>      | 32.43                | 53.02                | 18.64                | 43.89 |
| 2029 Buildout Total - Phase 3 Alt 3                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 60%                  | 66%                  | 44%                  | 57%   |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 88%                  | 92%                  | 78%                  | 88%   |
| Average Gap Delay                                    | d <sub>g</sub>       | 28.46                | 48.56                | 14.52                | 38.82 |
| Non-zero Delay                                       | d <sub>nz</sub>      | 32.43                | 53.02                | 18.64                | 43.89 |
| 2029 Buildout Total - Phase 3 Alt 4                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 60%                  | 66%                  | 44%                  | 57%   |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 88%                  | 92%                  | 78%                  | 88%   |
| Average Gap Delay                                    | d <sub>g</sub>       | 28.46                | 48.56                | 14.52                | 38.82 |
| Non-zero Delay                                       | d <sub>nz</sub>      | 32.43                | 53.02                | 18.64                | 43.89 |
| 2034 Buildout Total - Phase 3 Alt 1                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 66%                  | 72%                  | 50%                  | 64%   |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 88%                  | 92%                  | 75%                  | 87%   |
| Average Gap Delay                                    | d <sub>g</sub>       | 38.88                | 69.03                | 18.87                | 53.22 |
| Non-zero Delay                                       | d <sub>nz</sub>      | 43.96                | 74.90                | 25.16                | 61.14 |
| 2034 Buildout Total - Phase 3 Alt 2                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 66%                  | 72%                  | 50%                  | 64%   |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 88%                  | 92%                  | 75%                  | 87%   |
| Average Gap Delay                                    | d <sub>g</sub>       | 38.88                | 69.03                | 18.87                | 53.22 |
| Non-zero Delay                                       | d <sub>nz</sub>      | 43.96                | 74.90                | 25.16                | 61.14 |
| 2034 Buildout Total - Phase 3 Alt 3                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 66%                  | 72%                  | 50%                  | 64%   |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 88%                  | 92%                  | 75%                  | 87%   |
| Average Gap Delay                                    | d <sub>g</sub>       | 38.88                | 69.03                | 18.87                | 53.22 |
| Non-zero Delay                                       | d <sub>nz</sub>      | 43.96                | 74.90                | 25.16                | 61.14 |
| 2034 Buildout Total - Phase 3 Alt 4                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 66%                  | 72%                  | 50%                  | 64%   |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 88%                  | 92%                  | 75%                  | 87%   |
| Average Gap Delay                                    | d <sub>g</sub>       | 38.88                | 69.03                | 18.87                | 53.22 |
| Non-zero Delay                                       | d <sub>nz</sub>      | 43.96                | 74.90                | 25.16                | 61.14 |
| 2021 Background Traffic                              |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 48%                  | 54%                  | 36%                  | 48%   |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 73%                  | 79%                  | 59%                  | 73%   |
| Average Gap Delay                                    | d <sub>g</sub>       | 16.27                | 26.22                | 9.86                 | 24.72 |
| Non-zero Delay                                       | d <sub>nz</sub>      | 33.90                | 48.56                | 27.39                | 51.50 |
| 2029 Background Traffic                              |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 57%                  | 64%                  | 44%                  | 57%   |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 82%                  | 87%                  | 69%                  | 82%   |
| Average Gap Delay                                    | d <sub>g</sub>       | 25.41                | 42.78                | 14.52                | 38.82 |
| Non-zero Delay                                       | d <sub>nz</sub>      | 44.58                | 66.84                | 33.00                | 68.11 |
| 2034 Background Traffic with Superstreet (Alt 1 & 3) |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 51%                  | 64%                  | 44%                  | 57%   |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 82%                  | 87%                  | 69%                  | 82%   |
| Average Gap Delay                                    | d <sub>g</sub>       | 25.41                | 42.78                | 14.52                | 38.82 |
| Non-zero Delay                                       | d <sub>nz</sub>      | 44.58                | 66.84                | 33.00                | 68.11 |
| 2034 Background Traffic                              |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 64%                  | 70%                  | 50%                  | 64%   |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 87%                  | 91%                  | 75%                  | 87%   |

|                                         |         | 2020 Existing Traffic |      |      |      | 2027 Background Traffic |      |      |      | 2027 Buildout Total |      |      |      | 2032 Buildout Total |      |      |      | 2034 Buildout Total - Phase 1 Alt 2 |      |      |      | 2034 Buildout Total - Phase 1 Alt 3 |      |      |      | 2034 Buildout Total - Phase 1 Alt 4 |      |      |      | 2021 Background Traffic |      |      |      |
|-----------------------------------------|---------|-----------------------|------|------|------|-------------------------|------|------|------|---------------------|------|------|------|---------------------|------|------|------|-------------------------------------|------|------|------|-------------------------------------|------|------|------|-------------------------------------|------|------|------|-------------------------|------|------|------|
|                                         |         | NB                    | SB   | EB   | WB   | NB                      | SB   | EB   | WB   | NB                  | SB   | EB   | WB   | NB                  | SB   | EB   | WB   | NB                                  | SB   | EB   | WB   | NB                                  | SB   | EB   | WB   | NB                                  | SB   | EB   | WB   | NB                      | SB   | EB   | WB   |
| Volume                                  | 1 Stage | 288                   | 288  | 190  | 190  | 390                     | 390  | 289  | 289  | 411                 | 411  | 289  | 289  | 480                 | 480  | 334  | 334  | 350                                 | 350  | 220  | 220  | 350                                 | 350  | 220  | 220  | 350                                 | 350  | 220  | 220  | 299                     | 299  | 198  | 198  |
|                                         | 2 Stage | -                     | -    | -    | -    | -                       | -    | -    | -    | -                   | -    | -    | -    | -                   | -    | -    | -    | -                                   | -    | -    | -    | -                                   | -    | -    | -    | -                                   | -    | -    | -    | -                       | -    | -    | -    |
| Conflicting veh flow rate (veh/sec) (v) | 1 Stage | 0.08                  | 0.08 | 0.05 | 0.05 | 0.11                    | 0.11 | 0.08 | 0.08 | 0.11                | 0.11 | 0.08 | 0.08 | 0.13                | 0.13 | 0.09 | 0.09 | 0.10                                | 0.10 | 0.06 | 0.06 | 0.10                                | 0.10 | 0.06 | 0.06 | 0.10                                | 0.10 | 0.06 | 0.06 | 0.08                    | 0.08 | 0.06 | 0.06 |
|                                         | 2 Stage | -                     | -    | -    | -    | -                       | -    | -    | -    | -                   | -    | -    | -    | -                   | -    | -    | -    | -                                   | -    | -    | -    | -                                   | -    | -    | -    | -                                   | -    | -    | -    | -                       | -    | -    | -    |
| No. of lanes crossed                    |         | 2                     | 2    | 2    | 2    | 2                       | 2    | 2    | 2    | 2                   | 2    | 2    | 2    | 2                   | 2    | 2    | 2    | 2                                   | 2    | 2    | 2    | 2                                   | 2    | 2    | 2    | 2                                   | 2    | 2    | 2    | 2                       | 2    | 2    | 2    |

|                                         |         | 2021 Buildout Total - Phase 1 Alt 1 |      |      |      | 2021 Buildout Total - Phase 1 Alt 2 |      |      |      | 2021 Buildout Total - Phase 1 Alt 3 |      |      |      | 2021 Buildout Total - Phase 1 Alt 4 |      |      |      | 2029 Buildout Total - Phase 3 Alt 1 |      |      |      | 2029 Buildout Total - Phase 3 Alt 2 |      |      |      | 2029 Buildout Total - Phase 3 Alt 3 |      |      |      | 2029 Buildout Total - Phase 3 Alt 4 |      |      |      |
|-----------------------------------------|---------|-------------------------------------|------|------|------|-------------------------------------|------|------|------|-------------------------------------|------|------|------|-------------------------------------|------|------|------|-------------------------------------|------|------|------|-------------------------------------|------|------|------|-------------------------------------|------|------|------|-------------------------------------|------|------|------|
|                                         |         | NB                                  | SB   | EB   | WB   | NB                                  | SB   | EB   | WB   | NB                                  | SB   | EB   | WB   | NB                                  | SB   | EB   | WB   | NB                                  | SB   | EB   | WB   | NB                                  | SB   | EB   | WB   | NB                                  | SB   | EB   | WB   | NB                                  | SB   | EB   | WB   |
| Volume                                  | 1 Stage | 309                                 | 309  | 198  | 198  | 308                                 | 308  | 198  | 198  | 308                                 | 308  | 198  | 198  | 308                                 | 308  | 198  | 198  | 419                                 | 419  | 261  | 261  | 419                                 | 419  | 261  | 261  | 419                                 | 419  | 261  | 261  | 419                                 | 419  | 261  | 261  |
|                                         | 2 Stage |                                     |      |      |      |                                     |      |      |      |                                     |      |      |      |                                     |      |      |      |                                     |      |      |      |                                     |      |      |      |                                     |      |      |      |                                     |      |      |      |
| Conflicting veh flow rate (veh/sec) (v) | 1 Stage | 0.09                                | 0.09 | 0.06 | 0.06 | 0.09                                | 0.09 | 0.06 | 0.06 | 0.09                                | 0.09 | 0.06 | 0.06 | 0.09                                | 0.09 | 0.06 | 0.06 | 0.12                                | 0.12 | 0.07 | 0.07 | 0.12                                | 0.12 | 0.07 | 0.07 | 0.12                                | 0.12 | 0.07 | 0.07 | 0.12                                | 0.12 | 0.07 | 0.07 |
|                                         | 2 Stage |                                     |      |      |      |                                     |      |      |      |                                     |      |      |      |                                     |      |      |      |                                     |      |      |      |                                     |      |      |      |                                     |      |      |      |                                     |      |      |      |
| No. of lanes crossed                    |         | 2                                   | 2    | 2    | 2    | 2                                   | 2    | 2    | 2    | 2                                   | 2    | 2    | 2    | 2                                   | 2    | 2    | 2    | 2                                   | 2    | 2    | 2    | 2                                   | 2    | 2    | 2    | 2                                   | 2    | 2    | 2    | 2                                   | 2    | 2    |      |

|                                         |         | 2034 Buildout Total - Phase 3 Alt 1 |      |      |      |      |      |      |      | 2034 Buildout Total - Phase 3 Alt 2 |      |      |      |      |      |      |      | 2034 Buildout Total - Phase 3 Alt 3 |      |      |      |      |      |      |      | 2034 Buildout Total - Phase 3 Alt 4 |      |      |      |      |      |      |      | 2029 Background Traffic |      |      |      |     |     |     |     | 2029 Background Traffic with Superstreet (Alt 1 & 3) |  |  |  |  |  |  |  | 2034 Background Traffic |  |  |  |  |  |  |  | 2034 Background Traffic with Superstreet (Alt 1 & 3) |  |  |  |  |  |  |  |
|-----------------------------------------|---------|-------------------------------------|------|------|------|------|------|------|------|-------------------------------------|------|------|------|------|------|------|------|-------------------------------------|------|------|------|------|------|------|------|-------------------------------------|------|------|------|------|------|------|------|-------------------------|------|------|------|-----|-----|-----|-----|------------------------------------------------------|--|--|--|--|--|--|--|-------------------------|--|--|--|--|--|--|--|------------------------------------------------------|--|--|--|--|--|--|--|
|                                         |         | NB                                  | SB   | EB   | WB   | NB   | SB   | EB   | WB   | NB                                  | SB   | EB   | WB   | NB   | SB   | EB   | WB   | NB                                  | SB   | EB   | WB   | NB   | SB   | EB   | WB   | NB                                  | SB   | EB   | WB   | NB   | SB   | EB   | WB   | NB                      | SB   | EB   | WB   | NB  | SB  | EB  | WB  |                                                      |  |  |  |  |  |  |  |                         |  |  |  |  |  |  |  |                                                      |  |  |  |  |  |  |  |
| Volume                                  | 1 Stage | 494                                 | 494  | 310  | 310  | 494  | 494  | 310  | 310  | 494                                 | 494  | 310  | 310  | 494  | 494  | 310  | 310  | 393                                 | 393  | 261  | 261  | 393  | 393  | 261  | 261  | 494                                 | 494  | 310  | 310  | 494  | 494  | 310  | 310  | 494                     | 494  | 310  | 310  | 494 | 494 | 310 | 310 |                                                      |  |  |  |  |  |  |  |                         |  |  |  |  |  |  |  |                                                      |  |  |  |  |  |  |  |
|                                         | 2 Stage |                                     |      |      |      |      |      |      |      |                                     |      |      |      |      |      |      |      |                                     |      |      |      |      |      |      |      |                                     |      |      |      |      |      |      |      |                         |      |      |      |     |     |     |     |                                                      |  |  |  |  |  |  |  |                         |  |  |  |  |  |  |  |                                                      |  |  |  |  |  |  |  |
| Conflicting veh flow rate (veh/sec) (v) | 1 Stage | 0.14                                | 0.14 | 0.09 | 0.09 | 0.14 | 0.14 | 0.09 | 0.09 | 0.14                                | 0.14 | 0.09 | 0.09 | 0.14 | 0.14 | 0.09 | 0.09 | 0.11                                | 0.11 | 0.07 | 0.07 | 0.11 | 0.11 | 0.07 | 0.07 | 0.13                                | 0.13 | 0.09 | 0.09 | 0.13 | 0.13 | 0.09 | 0.09 | 0.13                    | 0.13 | 0.09 | 0.09 |     |     |     |     |                                                      |  |  |  |  |  |  |  |                         |  |  |  |  |  |  |  |                                                      |  |  |  |  |  |  |  |
| No. of lanes crossed                    |         | 2                                   | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2                                   | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2                                   | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2                                   | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2                       | 2    | 2    | 2    | 2   | 2   |     |     |                                                      |  |  |  |  |  |  |  |                         |  |  |  |  |  |  |  |                                                      |  |  |  |  |  |  |  |

| Stallings Road and Sweet Birch Drive<br>AM PEAK HOUR |                       |                      |                      |                      |     |
|------------------------------------------------------|-----------------------|----------------------|----------------------|----------------------|-----|
|                                                      | Crossing NB Approach  | Crossing SB Approach | Crossing EB Approach | Crossing WB Approach |     |
| Major Street (Front Flow)                            |                       |                      |                      |                      | N   |
| Crosswalk Length (ft)                                | L 25                  | 25                   | 0                    | 40                   |     |
| Walking Speed (ft/sec)                               | S <sub>w</sub> 3.5    | 3.5                  | 3.5                  | 3.5                  | 3.5 |
| Start Up Time                                        | t <sub>u</sub> 3      | 3                    | 3                    | 3                    |     |
| Critical Headway                                     | t <sub>c</sub> 10.14  | 10.14                | 3.00                 | 15.66                |     |
| 1 Stage Crossing? (Median > Y or N)                  | N                     | N                    | N                    | N                    |     |
| Yielding Vehicles? (Supergate < Y or N)              | N                     | N                    | N                    | N                    |     |
| 2020 Existing Traffic                                |                       |                      |                      |                      |     |
| Probability of Blocked Lane                          | P <sub>b</sub> 50%    | 50%                  | -                    | -                    |     |
| Probability of Delayed Crossing                      | P <sub>d</sub> 81%    | 81%                  | -                    | -                    |     |
| Average Gap Delay                                    | d <sub>g</sub> 15.69  | 15.69                | -                    | -                    |     |
| Non-zero Delay                                       | d <sub>np</sub> 19.46 | 19.46                | -                    | -                    |     |
| 2027 Background Traffic                              |                       |                      |                      |                      |     |
| Probability of Blocked Lane                          | P <sub>b</sub> 72%    | 72%                  | -                    | -                    |     |
| Probability of Delayed Crossing                      | P <sub>d</sub> 90%    | 90%                  | -                    | -                    |     |
| Average Gap Delay                                    | d <sub>g</sub> 36.00  | 36.00                | -                    | -                    |     |
| Non-zero Delay                                       | d <sub>np</sub> 39.06 | 39.06                | -                    | -                    |     |
| 2032 Buildout Total                                  |                       |                      |                      |                      |     |
| Probability of Blocked Lane                          | P <sub>b</sub> 75%    | 75%                  | -                    | -                    |     |
| Probability of Delayed Crossing                      | P <sub>d</sub> 94%    | 94%                  | -                    | -                    |     |
| Average Gap Delay                                    | d <sub>g</sub> 46.05  | 46.05                | -                    | -                    |     |
| Non-zero Delay                                       | d <sub>np</sub> 49.12 | 49.12                | -                    | -                    |     |
| 2034 Buildout Total                                  |                       |                      |                      |                      |     |
| Probability of Blocked Lane                          | P <sub>b</sub> 80%    | 80%                  | -                    | -                    |     |
| Probability of Delayed Crossing                      | P <sub>d</sub> 96%    | 96%                  | -                    | -                    |     |
| Average Gap Delay                                    | d <sub>g</sub> 64.24  | 64.24                | -                    | -                    |     |
| Non-zero Delay                                       | d <sub>np</sub> 67.01 | 67.01                | -                    | -                    |     |
| 2024 Buildout Total - Phase 1 AB 2                   |                       |                      |                      |                      |     |
| Probability of Blocked Lane                          | P <sub>b</sub> 38%    | 38%                  | -                    | -                    |     |
| Probability of Delayed Crossing                      | P <sub>d</sub> 96%    | 96%                  | -                    | -                    |     |
| Average Gap Delay                                    | d <sub>g</sub> 6.95   | 6.95                 | -                    | -                    |     |
| Non-zero Delay                                       | d <sub>np</sub> 7.24  | 7.24                 | -                    | -                    |     |
| 2024 Buildout Total - Phase 1 AB 3                   |                       |                      |                      |                      |     |
| Probability of Blocked Lane                          | P <sub>b</sub> 38%    | 38%                  | -                    | -                    |     |
| Probability of Delayed Crossing                      | P <sub>d</sub> 96%    | 96%                  | -                    | -                    |     |
| Average Gap Delay                                    | d <sub>g</sub> 6.95   | 6.95                 | -                    | -                    |     |
| Non-zero Delay                                       | d <sub>np</sub> 7.24  | 7.24                 | -                    | -                    |     |
| 2024 Buildout Total - Phase 1 AB 4                   |                       |                      |                      |                      |     |
| Probability of Blocked Lane                          | P <sub>b</sub> 38%    | 38%                  | -                    | -                    |     |
| Probability of Delayed Crossing                      | P <sub>d</sub> 96%    | 96%                  | -                    | -                    |     |
| Average Gap Delay                                    | d <sub>g</sub> 6.95   | 6.95                 | -                    | -                    |     |
| Non-zero Delay                                       | d <sub>np</sub> 7.24  | 7.24                 | -                    | -                    |     |
| 2021 Buildout Total - Phase 1 AB 1                   |                       |                      |                      |                      |     |
| Probability of Blocked Lane                          | P <sub>b</sub> 35%    | 35%                  | -                    | -                    |     |
| Probability of Delayed Crossing                      | P <sub>d</sub> 58%    | 58%                  | -                    | -                    |     |
| Average Gap Delay                                    | d <sub>g</sub> 5.93   | 5.93                 | -                    | -                    |     |
| Non-zero Delay                                       | d <sub>np</sub> 10.27 | 10.27                | -                    | -                    |     |
| 2021 Buildout Total - Phase 1 AB 2                   |                       |                      |                      |                      |     |
| Probability of Blocked Lane                          | P <sub>b</sub> 35%    | 35%                  | -                    | -                    |     |
| Probability of Delayed Crossing                      | P <sub>d</sub> 58%    | 58%                  | -                    | -                    |     |
| Average Gap Delay                                    | d <sub>g</sub> 5.93   | 5.93                 | -                    | -                    |     |
| Non-zero Delay                                       | d <sub>np</sub> 10.27 | 10.27                | -                    | -                    |     |
| 2021 Buildout Total - Phase 1 AB 3                   |                       |                      |                      |                      |     |
| Probability of Blocked Lane                          | P <sub>b</sub> 35%    | 35%                  | -                    | -                    |     |
| Probability of Delayed Crossing                      | P <sub>d</sub> 58%    | 58%                  | -                    | -                    |     |
| Average Gap Delay                                    | d <sub>g</sub> 5.93   | 5.93                 | -                    | -                    |     |
| Non-zero Delay                                       | d <sub>np</sub> 10.27 | 10.27                | -                    | -                    |     |
| 2021 Buildout Total - Phase 1 AB 4                   |                       |                      |                      |                      |     |
| Probability of Blocked Lane                          | P <sub>b</sub> 35%    | 35%                  | -                    | -                    |     |
| Probability of Delayed Crossing                      | P <sub>d</sub> 58%    | 58%                  | -                    | -                    |     |
| Average Gap Delay                                    | d <sub>g</sub> 5.93   | 5.93                 | -                    | -                    |     |
| Non-zero Delay                                       | d <sub>np</sub> 10.27 | 10.27                | -                    | -                    |     |
| 2029 Buildout Total - Phase 3 AB 1                   |                       |                      |                      |                      |     |
| Probability of Blocked Lane                          | P <sub>b</sub> 44%    | 44%                  | -                    | -                    |     |
| Probability of Delayed Crossing                      | P <sub>d</sub> 96%    | 96%                  | -                    | -                    |     |
| Average Gap Delay                                    | d <sub>g</sub> 8.95   | 8.95                 | -                    | -                    |     |
| Non-zero Delay                                       | d <sub>np</sub> 15.50 | 15.50                | -                    | -                    |     |
| 2029 Buildout Total - Phase 3 AB 2                   |                       |                      |                      |                      |     |
| Probability of Blocked Lane                          | P <sub>b</sub> 44%    | 44%                  | -                    | -                    |     |
| Probability of Delayed Crossing                      | P <sub>d</sub> 96%    | 96%                  | -                    | -                    |     |
| Average Gap Delay                                    | d <sub>g</sub> 8.95   | 8.95                 | -                    | -                    |     |
| Non-zero Delay                                       | d <sub>np</sub> 9.32  | 9.32                 | -                    | -                    |     |
| 2029 Buildout Total - Phase 3 AB 3                   |                       |                      |                      |                      |     |
| Probability of Blocked Lane                          | P <sub>b</sub> 44%    | 44%                  | -                    | -                    |     |
| Probability of Delayed Crossing                      | P <sub>d</sub> 96%    | 96%                  | -                    | -                    |     |
| Average Gap Delay                                    | d <sub>g</sub> 8.95   | 8.95                 | -                    | -                    |     |
| Non-zero Delay                                       | d <sub>np</sub> 9.32  | 9.32                 | -                    | -                    |     |
| 2029 Buildout Total - Phase 3 AB 4                   |                       |                      |                      |                      |     |
| Probability of Blocked Lane                          | P <sub>b</sub> 44%    | 44%                  | -                    | -                    |     |
| Probability of Delayed Crossing                      | P <sub>d</sub> 96%    | 96%                  | -                    | -                    |     |
| Average Gap Delay                                    | d <sub>g</sub> 8.95   | 8.95                 | -                    | -                    |     |
| Non-zero Delay                                       | d <sub>np</sub> 9.32  | 9.32                 | -                    | -                    |     |
| 2034 Buildout Total - Phase 3 AB 1                   |                       |                      |                      |                      |     |
| Probability of Blocked Lane                          | P <sub>b</sub> 49%    | 49%                  | -                    | -                    |     |
| Probability of Delayed Crossing                      | P <sub>d</sub> 74%    | 74%                  | -                    | -                    |     |
| Average Gap Delay                                    | d <sub>g</sub> 11.43  | 11.43                | -                    | -                    |     |
| Non-zero Delay                                       | d <sub>np</sub> 15.45 | 15.45                | -                    | -                    |     |
| 2034 Buildout Total - Phase 3 AB 2                   |                       |                      |                      |                      |     |
| Probability of Blocked Lane                          | P <sub>b</sub> 49%    | 49%                  | -                    | -                    |     |
| Probability of Delayed Crossing                      | P <sub>d</sub> 74%    | 74%                  | -                    | -                    |     |
| Average Gap Delay                                    | d <sub>g</sub> 11.43  | 11.43                | -                    | -                    |     |
| Non-zero Delay                                       | d <sub>np</sub> 15.45 | 15.45                | -                    | -                    |     |
| 2034 Buildout Total - Phase 3 AB 3                   |                       |                      |                      |                      |     |
| Probability of Blocked Lane                          | P <sub>b</sub> 49%    | 49%                  | -                    | -                    |     |
| Probability of Delayed Crossing                      | P <sub>d</sub> 74%    | 74%                  | -                    | -                    |     |
| Average Gap Delay                                    | d <sub>g</sub> 11.43  | 11.43                | -                    | -                    |     |
| Non-zero Delay                                       | d <sub>np</sub> 15.45 | 15.45                | -                    | -                    |     |
| 2034 Buildout Total - Phase 3 AB 4                   |                       |                      |                      |                      |     |
| Probability of Blocked Lane                          | P <sub>b</sub> 49%    | 49%                  | -                    | -                    |     |
| Probability of Delayed Crossing                      | P <sub>d</sub> 74%    | 74%                  | -                    | -                    |     |
| Average Gap Delay                                    | d <sub>g</sub> 11.43  | 11.43                | -                    | -                    |     |
| Non-zero Delay                                       | d <sub>np</sub> 23.33 | 23.33                | -                    | -                    |     |
| 2021 Background Traffic                              |                       |                      |                      |                      |     |
| Probability of Blocked Lane                          | P <sub>b</sub> 34%    | 34%                  | -                    | -                    |     |
| Probability of Delayed Crossing                      | P <sub>d</sub> 56%    | 56%                  | -                    | -                    |     |
| Average Gap Delay                                    | d <sub>g</sub> 5.70   | 5.70                 | -                    | -                    |     |
| Non-zero Delay                                       | d <sub>np</sub> 16.76 | 16.76                | -                    | -                    |     |
| 2029 Background Traffic                              |                       |                      |                      |                      |     |
| Probability of Blocked Lane                          | P <sub>b</sub> 42%    | 42%                  | -                    | -                    |     |
| Probability of Delayed Crossing                      | P <sub>d</sub> 69%    | 69%                  | -                    | -                    |     |
| Average Gap Delay                                    | d <sub>g</sub> 8.32   | 8.32                 | -                    | -                    |     |
| Non-zero Delay                                       | d <sub>np</sub> 19.81 | 19.81                | -                    | -                    |     |
| 2029 Background Traffic with Superstreet (AB 1 & 3)  |                       |                      |                      |                      |     |
| Probability of Blocked Lane                          | P <sub>b</sub> 37%    | 37%                  | -                    | -                    |     |
| Probability of Delayed Crossing                      | P <sub>d</sub> 60%    | 60%                  | -                    | -                    |     |
| Average Gap Delay                                    | d <sub>g</sub> 6.54   | 6.54                 | -                    | -                    |     |
| Non-zero Delay                                       | d <sub>np</sub> 17.68 | 17.68                | -                    | -                    |     |
| 2034 Background Traffic                              |                       |                      |                      |                      |     |
| Probability of Blocked Lane                          | P <sub>b</sub> 45%    | 45%                  | -                    | -                    |     |
| Probability of Delayed Crossing                      | P <sub>d</sub> 72%    | 72%                  | -                    | -                    |     |
| Average Gap Delay                                    | d <sub>g</sub> 10.70  | 10.70                | -                    | -                    |     |
| Non-zero Delay                                       | d <sub>np</sub> 22.29 | 22.29                | -                    | -                    |     |
| 2034 Background Traffic with Superstreet (AB 1 & 3)  |                       |                      |                      |                      |     |
| Probability of Blocked Lane                          | P <sub>b</sub> 40%    | 40%                  | -                    | -                    |     |
| Probability of Delayed Crossing                      | P <sub>d</sub> 73%    | 73%                  | -                    | -                    |     |
| Average Gap Delay                                    | d <sub>g</sub> 10.70  | 10.70                | -                    | -                    |     |
| Non-zero Delay                                       | d <sub>np</sub> 22.29 | 22.29                | -                    | -                    |     |

|                                           | 2020 Existing Traffic |      |    |    | 2027 Background Traffic |      |    |    | 2027 Buildout Total |      |    |    | 2032 Buildout Total |       |    |    | 2024 Buildout Total - Phase 1 AB 2 |      |    |    | 2024 Buildout Total - Phase 1 AB 3 |      |    |    | 2024 Buildout Total - Phase 1 AB 4 |      |    |    | 2021 Background Traffic |      |    |    |
|-------------------------------------------|-----------------------|------|----|----|-------------------------|------|----|----|---------------------|------|----|----|---------------------|-------|----|----|------------------------------------|------|----|----|------------------------------------|------|----|----|------------------------------------|------|----|----|-------------------------|------|----|----|
|                                           | NB                    | SB   | EB | WB | NB                      | SB   | EB | WB | NB                  | SB   | EB | WB | NB                  | SB    | EB | WB | NB                                 | SB   | EB | WB | NB                                 | SB   | EB | WB | NB                                 | SB   | EB | WB | NB                      | SB   | EB | WB |
| Volume                                    | 585                   | 585  | -  | -  | 996                     | 996  | -  | -  | 996                 | 996  | -  | -  | 1,135               | 1,135 | -  | -  | 343                                | 343  | -  | -  | 343                                | 343  | -  | -  | 343                                | 343  | -  | -  | 296                     | 296  | -  | -  |
| Conflicting with flow rate (vehicles) (v) | 0.16                  | 0.16 | -  | -  | 0.25                    | 0.25 | -  | -  | 0.29                | 0.29 | -  | -  | 0.32                | 0.32  | -  | -  | 0.10                               | 0.10 | -  | -  | 0.10                               | 0.10 | -  | -  | 0.10                               | 0.10 | -  | -  | 0.08                    | 0.08 | -  | -  |
| No. of lanes crossed                      | 2                     | 2    | 2  | 2  | 2                       | 2    | 2  | 2  | 2                   | 2    | 2  | 2  | 2                   | 2     | 2  | 2  | 2                                  | 2    | 2  | 2  | 2                                  | 2    | 2  | 2  | 2                                  | 2    | 2  | 2  | 2                       | 2    | 2  | 2  |

|                                           | 2021 Buildout Total - Phase 1 AB 2 |      |    |    | 2021 Buildout Total - Phase 1 AB 3 |      |    |    | 2021 Buildout Total - Phase 1 AB 3 |      |    |    | 2021 Buildout Total - Phase 1 AB 4 |      |    |    | 2029 Buildout Total - Phase 3 AB 1 |      |    |    | 2029 Buildout Total - Phase 3 AB 2 |      |    |    | 2029 Buildout Total - Phase 3 AB 3 |      |    |    | 2029 Buildout Total - Phase 3 AB 4 |      |    |    |
|-------------------------------------------|------------------------------------|------|----|----|------------------------------------|------|----|----|------------------------------------|------|----|----|------------------------------------|------|----|----|------------------------------------|------|----|----|------------------------------------|------|----|----|------------------------------------|------|----|----|------------------------------------|------|----|----|
|                                           | NB                                 | SB   | EB | WB | NB                                 | SB   | EB | WB | NB                                 | SB   | EB | WB | NB                                 | SB   | EB | WB | NB                                 | SB   | EB | WB | NB                                 | SB   | EB | WB | NB                                 | SB   | EB | WB | NB                                 | SB   | EB | WB |
| Volume                                    | 305                                | 305  | -  | -  | 305                                | 305  | -  | -  | 305                                | 305  | -  | -  | 305                                | 305  | -  | -  | 410                                | 410  | -  | -  | 410                                | 410  | -  | -  | 410                                | 410  | -  | -  | 410                                | 410  | -  | -  |
| Conflicting with flow rate (vehicles) (v) | 0.08                               | 0.08 | -  | -  | 0.08                               | 0.08 | -  | -  | 0.08                               | 0.08 | -  | -  | 0.08                               | 0.08 | -  | -  | 0.11                               | 0.11 | -  | -  | 0.11                               | 0.11 | -  | -  | 0.11                               | 0.11 | -  | -  | 0.11                               | 0.11 | -  | -  |
| No. of lanes crossed                      | 2                                  | 2    | 2  | 2  | 2                                  | 2    | 2  | 2  | 2                                  | 2    | 2  | 2  | 2                                  | 2    | 2  | 2  | 2                                  | 2    | 2  | 2  | 2                                  | 2    | 2  | 2  | 2                                  | 2    | 2  | 2  | 2                                  | 2    | 2  | 2  |

|                                           | 2034 Buildout Total - Phase 3 AB 1 |      |    |    | 2034 Buildout Total - Phase 3 AB 2 |      |    |    | 2034 Buildout Total - Phase 3 AB 3 |      |    |    | 2034 Buildout Total - Phase 3 AB 4 |      |    |    | 2029 Background Traffic |      |    |    | 2029 Background Traffic with Superstreet (AB 1 & 3) |      |    |    | 2034 Background Traffic |      |    |    | 2034 Background Traffic with Superstreet (AB 1 & 3) |      |    |    |
|-------------------------------------------|------------------------------------|------|----|----|------------------------------------|------|----|----|------------------------------------|------|----|----|------------------------------------|------|----|----|-------------------------|------|----|----|-----------------------------------------------------|------|----|----|-------------------------|------|----|----|-----------------------------------------------------|------|----|----|
|                                           | NB                                 | SB   | EB | WB | NB                                 | SB   | EB | WB | NB                                 | SB   | EB | WB | NB                                 | SB   | EB | WB | NB                      | SB   | EB | WB | NB                                                  | SB   | EB | WB | NB                      | SB   | EB | WB | NB                                                  | SB   | EB | WB |
| Volume                                    | 487                                | 487  | -  | -  | 487                                | 487  | -  | -  | 487                                | 487  | -  | -  | 487                                | 487  | -  | -  | 390                     | 390  | -  | -  | 328                                                 | 328  | -  | -  | 467                     | 467  | -  | -  | 467                                                 | 467  | -  | -  |
| Conflicting with flow rate (vehicles) (v) | 0.13                               | 0.13 | -  | -  | 0.13                               | 0.13 | -  | -  | 0.13                               | 0.13 | -  | -  | 0.13                               | 0.13 | -  | -  | 0.11                    | 0.11 | -  | -  | 0.09                                                | 0.09 | -  | -  | 0.13                    | 0.13 | -  | -  | 0.13                                                | 0.13 | -  | -  |
| No. of lanes crossed                      | 2                                  | 2    | 2  | 2  | 2                                  | 2    | 2  | 2  | 2                                  | 2    | 2  | 2  | 2                                  | 2    | 2  | 2  | 2                       | 2    | 2  | 2  | 2                                                   | 2    | 2  | 2  | 2                       | 2    | 2  | 2  | 2                                                   | 2    | 2  | 2  |

| LOS | Control Delay (sec/ped) | Comments                                                                 | From HCM 6 |
|-----|-------------------------|--------------------------------------------------------------------------|------------|
| A   | 5                       | Usually no conflicting traffic                                           |            |
| B   | 10                      | Occasionally some delay due to conflicting traffic                       |            |
| C   | 20                      | Delay noticeable to pedestrians, but not inconveniencing                 |            |
| D   | 30                      | Delay noticeable and irritating, increased likelihood of risk taking     |            |
| E   | 45                      | Delay approaches tolerance level, risk taking behavior likely            |            |
| F   | > 45                    | Delay exceeds tolerance level, high likelihood of pedestrian risk taking |            |

| Results                                             |       |      |      |   |
|-----------------------------------------------------|-------|------|------|---|
| 2020 Existing Traffic                               | Delay | 15.7 | 15.7 | - |
|                                                     | LOS   | C    | C    | - |
| 2027 Background Traffic                             | Delay | 36.0 | 36.0 | - |
|                                                     | LOS   | E    | E    | - |
| 2027 Buildout Total                                 | Delay | 46.1 | 46.1 | - |
|                                                     | LOS   | F    | F    | - |
| 2032 Buildout Total                                 | Delay | 64.3 | 64.3 | - |
|                                                     | LOS   | F    | F    | - |
| 2024 Buildout Total - Phase 1 AB 2                  | Delay | 7.0  | 7.0  | - |
|                                                     | LOS   | B    | B    | - |
| 2024 Buildout Total - Phase 1 AB 3                  | Delay | 7.0  | 7.0  | - |
|                                                     | LOS   | B    | B    | - |
| 2024 Buildout Total - Phase 1 AB 4                  | Delay | 7.0  | 7.0  | - |
|                                                     | LOS   | B    | B    | - |
| 2021 Buildout Total - Phase 1 AB 1                  | Delay | 5.9  | 5.9  | - |
|                                                     | LOS   | B    | B    | - |
| 2021 Buildout Total - Phase 1 AB 2                  | Delay | 5.9  | 5.9  | - |
|                                                     | LOS   | B    | B    | - |
| 2021 Buildout Total - Phase 1 AB 3                  | Delay | 5.9  | 5.9  | - |
|                                                     | LOS   | B    | B    | - |
| 2021 Buildout Total - Phase 1 AB 4                  | Delay | 5.9  | 5.9  | - |
|                                                     | LOS   | B    | B    | - |
| 2026 Buildout Total - Phase 3 AB 1                  | Delay | 9.0  | 9.0  | - |
|                                                     | LOS   | B    | B    | - |
| 2026 Buildout Total - Phase 3 AB 2                  | Delay | 9.0  | 9.0  | - |
|                                                     | LOS   | B    | B    | - |
| 2026 Buildout Total - Phase 3 AB 3                  | Delay | 9.0  | 9.0  | - |
|                                                     | LOS   | B    | B    | - |
| 2026 Buildout Total - Phase 3 AB 4                  | Delay | 9.0  | 9.0  | - |
|                                                     | LOS   | B    | B    | - |
| 2034 Buildout Total - Phase 3 AB 1                  | Delay | 11.4 | 11.4 | - |
|                                                     | LOS   | C    | C    | - |
| 2034 Buildout Total - Phase 3 AB 2                  | Delay | 11.4 | 11.4 | - |
|                                                     | LOS   | C    | C    | - |
| 2034 Buildout Total - Phase 3 AB 3                  | Delay | 11.4 | 11.4 | - |
|                                                     | LOS   | C    | C    | - |
| 2034 Buildout Total - Phase 3 AB 4                  | Delay | 11.4 | 11.4 | - |
|                                                     | LOS   | C    | C    | - |
| 2021 Background Traffic                             | Delay | 5.7  | 5.7  | - |
|                                                     | LOS   | B    | B    | - |
| 2029 Background Traffic                             | Delay | 8.3  | 8.3  | - |
|                                                     | LOS   | B    | B    | - |
| 2030 Background Traffic with Superstreet (AB 1 & 3) | Delay | 6.5  | 6.5  | - |
|                                                     | LOS   | B    | B    | - |
| 2034 Background Traffic                             | Delay | 10.7 | 10.7 | - |
|                                                     | LOS   | C    | C    | - |
| 2034 Background Traffic with Superstreet (AB 1 & 3) | Delay | 10.7 | 10.7 | - |
|                                                     | LOS   | C    | C    | - |

| Stallings Road and Sweet Birch Drive<br>PM PEAK HOUR |                      |                      |                      |                      |       |
|------------------------------------------------------|----------------------|----------------------|----------------------|----------------------|-------|
|                                                      | Crossing NB Approach | Crossing SB Approach | Crossing EB Approach | Crossing WB Approach |       |
| Major Street (Free Flow)                             | Y                    | Y                    | N                    | N                    |       |
| Crosswalk Length (ft)                                | L                    | 35                   | 3                    | 3                    | 45    |
| Walking Speed (ft/sec)                               | S <sub>w</sub>       | 3.5                  | 3.5                  | 3.5                  | 3.5   |
| Start Up Time                                        | t <sub>s</sub>       | 3                    | 3                    | 3                    | 3     |
| Critical Headway                                     | t <sub>c</sub>       | 10.14                | 10.14                | 3.00                 | 15.86 |
| 2 Stage Crossing? (Median > Y or N)                  | N                    | N                    | N                    | N                    |       |
| Yielding Vehicles? (Signage > Y or N)                | N                    | N                    | N                    | N                    |       |
| 2020 Existing Traffic                                |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 58%                  | 58%                  | -                    | -     |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 82%                  | 82%                  | -                    | -     |
| Average Gap Delay                                    | d <sub>g</sub>       | 17.06                | 17.06                | -                    | -     |
| Non-zero Delay                                       | d <sub>net</sub>     | 20.71                | 20.71                | -                    | -     |
| 2027 Background Traffic                              |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 75%                  | 75%                  | -                    | -     |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 94%                  | 94%                  | -                    | -     |
| Average Gap Delay                                    | d <sub>g</sub>       | 43.86                | 43.86                | -                    | -     |
| Non-zero Delay                                       | d <sub>net</sub>     | 46.78                | 46.78                | -                    | -     |
| 2032 Buildout Total                                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 75%                  | 75%                  | -                    | -     |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 96%                  | 96%                  | -                    | -     |
| Average Gap Delay                                    | d <sub>g</sub>       | 60.75                | 60.75                | -                    | -     |
| Non-zero Delay                                       | d <sub>net</sub>     | 63.55                | 63.55                | -                    | -     |
| 2034 Buildout Total                                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 83%                  | 83%                  | -                    | -     |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 97%                  | 97%                  | -                    | -     |
| Average Gap Delay                                    | d <sub>g</sub>       | 86.06                | 86.06                | -                    | -     |
| Non-zero Delay                                       | d <sub>net</sub>     | 88.62                | 88.62                | -                    | -     |
| 2024 Buildout Total - Phase 1 Alt 2                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 39%                  | 39%                  | -                    | -     |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 97%                  | 97%                  | -                    | -     |
| Average Gap Delay                                    | d <sub>g</sub>       | 7.15                 | 7.15                 | -                    | -     |
| Non-zero Delay                                       | d <sub>net</sub>     | 7.36                 | 7.36                 | -                    | -     |
| 2024 Buildout Total - Phase 1 Alt 3                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 39%                  | 39%                  | -                    | -     |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 97%                  | 97%                  | -                    | -     |
| Average Gap Delay                                    | d <sub>g</sub>       | 7.15                 | 7.15                 | -                    | -     |
| Non-zero Delay                                       | d <sub>net</sub>     | 7.36                 | 7.36                 | -                    | -     |
| 2024 Buildout Total - Phase 1 Alt 4                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 39%                  | 39%                  | -                    | -     |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 97%                  | 97%                  | -                    | -     |
| Average Gap Delay                                    | d <sub>g</sub>       | 7.15                 | 7.15                 | -                    | -     |
| Non-zero Delay                                       | d <sub>net</sub>     | 7.36                 | 7.36                 | -                    | -     |
| 2021 Buildout Total - Phase 1 Alt 1                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 35%                  | 35%                  | -                    | -     |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 58%                  | 58%                  | -                    | -     |
| Average Gap Delay                                    | d <sub>g</sub>       | 6.03                 | 6.03                 | -                    | -     |
| Non-zero Delay                                       | d <sub>net</sub>     | 10.44                | 10.44                | -                    | -     |
| 2021 Buildout Total - Phase 1 Alt 2                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 35%                  | 35%                  | -                    | -     |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 58%                  | 58%                  | -                    | -     |
| Average Gap Delay                                    | d <sub>g</sub>       | 6.01                 | 6.01                 | -                    | -     |
| Non-zero Delay                                       | d <sub>net</sub>     | 10.41                | 10.41                | -                    | -     |
| 2021 Buildout Total - Phase 1 Alt 3                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 35%                  | 35%                  | -                    | -     |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 58%                  | 58%                  | -                    | -     |
| Average Gap Delay                                    | d <sub>g</sub>       | 6.01                 | 6.01                 | -                    | -     |
| Non-zero Delay                                       | d <sub>net</sub>     | 10.41                | 10.41                | -                    | -     |
| 2021 Buildout Total - Phase 1 Alt 4                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 35%                  | 35%                  | -                    | -     |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 58%                  | 58%                  | -                    | -     |
| Average Gap Delay                                    | d <sub>g</sub>       | 6.01                 | 6.01                 | -                    | -     |
| Non-zero Delay                                       | d <sub>net</sub>     | 10.41                | 10.41                | -                    | -     |
| 2029 Buildout Total - Phase 3 Alt 1                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 45%                  | 45%                  | -                    | -     |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 58%                  | 58%                  | -                    | -     |
| Average Gap Delay                                    | d <sub>g</sub>       | 9.24                 | 9.24                 | -                    | -     |
| Non-zero Delay                                       | d <sub>net</sub>     | 16.00                | 16.00                | -                    | -     |
| 2029 Buildout Total - Phase 3 Alt 2                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 45%                  | 45%                  | -                    | -     |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 97%                  | 97%                  | -                    | -     |
| Average Gap Delay                                    | d <sub>g</sub>       | 9.24                 | 9.24                 | -                    | -     |
| Non-zero Delay                                       | d <sub>net</sub>     | 9.51                 | 9.51                 | -                    | -     |
| 2029 Buildout Total - Phase 3 Alt 3                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 45%                  | 45%                  | -                    | -     |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 97%                  | 97%                  | -                    | -     |
| Average Gap Delay                                    | d <sub>g</sub>       | 9.24                 | 9.24                 | -                    | -     |
| Non-zero Delay                                       | d <sub>net</sub>     | 9.51                 | 9.51                 | -                    | -     |
| 2029 Buildout Total - Phase 3 Alt 4                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 45%                  | 45%                  | -                    | -     |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 97%                  | 97%                  | -                    | -     |
| Average Gap Delay                                    | d <sub>g</sub>       | 9.24                 | 9.24                 | -                    | -     |
| Non-zero Delay                                       | d <sub>net</sub>     | 9.51                 | 9.51                 | -                    | -     |
| 2034 Buildout Total - Phase 3 Alt 1                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 50%                  | 50%                  | -                    | -     |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 75%                  | 75%                  | -                    | -     |
| Average Gap Delay                                    | d <sub>g</sub>       | 11.88                | 11.88                | -                    | -     |
| Non-zero Delay                                       | d <sub>net</sub>     | 15.84                | 15.84                | -                    | -     |
| 2034 Buildout Total - Phase 3 Alt 2                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 50%                  | 50%                  | -                    | -     |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 75%                  | 75%                  | -                    | -     |
| Average Gap Delay                                    | d <sub>g</sub>       | 11.88                | 11.88                | -                    | -     |
| Non-zero Delay                                       | d <sub>net</sub>     | 15.84                | 15.84                | -                    | -     |
| 2034 Buildout Total - Phase 3 Alt 3                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 50%                  | 50%                  | -                    | -     |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 75%                  | 75%                  | -                    | -     |
| Average Gap Delay                                    | d <sub>g</sub>       | 11.88                | 11.88                | -                    | -     |
| Non-zero Delay                                       | d <sub>net</sub>     | 15.84                | 15.84                | -                    | -     |
| 2034 Buildout Total - Phase 3 Alt 4                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 50%                  | 50%                  | -                    | -     |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 75%                  | 75%                  | -                    | -     |
| Average Gap Delay                                    | d <sub>g</sub>       | 11.88                | 11.88                | -                    | -     |
| Non-zero Delay                                       | d <sub>net</sub>     | 23.76                | 23.76                | -                    | -     |
| 2021 Background Traffic                              |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 34%                  | 34%                  | -                    | -     |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 56%                  | 56%                  | -                    | -     |
| Average Gap Delay                                    | d <sub>g</sub>       | 5.77                 | 5.77                 | -                    | -     |
| Non-zero Delay                                       | d <sub>net</sub>     | 16.97                | 16.97                | -                    | -     |
| 2029 Background Traffic                              |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 43%                  | 43%                  | -                    | -     |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 68%                  | 68%                  | -                    | -     |
| Average Gap Delay                                    | d <sub>g</sub>       | 8.42                 | 8.42                 | -                    | -     |
| Non-zero Delay                                       | d <sub>net</sub>     | 19.58                | 19.58                | -                    | -     |
| 2034 Background Traffic with Superstreet (Alt 1 & 3) |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 43%                  | 43%                  | -                    | -     |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 68%                  | 68%                  | -                    | -     |
| Average Gap Delay                                    | d <sub>g</sub>       | 8.42                 | 8.42                 | -                    | -     |
| Non-zero Delay                                       | d <sub>net</sub>     | 19.58                | 19.58                | -                    | -     |
| 2034 Background Traffic                              |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 48%                  | 48%                  | -                    | -     |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 73%                  | 73%                  | -                    | -     |

|                                         |         | 2020 Existing Traffic |      |    |    | 2027 Background Traffic |      |    |    | 2027 Buildout Total |       |    |    | 2032 Buildout Total |       |    |    | 2024 Buildout Total - Phase 1 Alt 2 |      |    |    | 2024 Buildout Total - Phase 1 Alt 3 |      |    |    | 2024 Buildout Total - Phase 1 Alt 4 |      |    |    | 2021 Background Traffic |      |  |  |
|-----------------------------------------|---------|-----------------------|------|----|----|-------------------------|------|----|----|---------------------|-------|----|----|---------------------|-------|----|----|-------------------------------------|------|----|----|-------------------------------------|------|----|----|-------------------------------------|------|----|----|-------------------------|------|--|--|
|                                         |         | NB                    | SB   | EB | WB | NB                      | SB   | EB | WB | NB                  | SB    | EB | WB | NB                  | SB    | EB | WB | NB                                  | SB   | EB | WB | NB                                  | SB   | EB | WB | NB                                  | SB   | EB | WB |                         |      |  |  |
| Volume                                  | 1 Stage | 614                   | 614  | -  | -  | 976                     | 976  | -  | -  | 1,111               | 1,111 | -  | -  | 1,258               | 1,258 | -  | -  | 350                                 | 350  | -  | -  | 350                                 | 350  | -  | -  | 350                                 | 350  | -  | -  | 299                     | 299  |  |  |
|                                         | 2 Stage | -                     | -    | -  | -  | -                       | -    | -  | -  | -                   | -     | -  | -  | -                   | -     | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                       | -    |  |  |
| Conflicting veh flow rate (veh/sec) (v) | 1 Stage | 0.17                  | 0.17 | -  | -  | 0.27                    | 0.27 | -  | -  | 0.31                | 0.31  | -  | -  | 0.35                | 0.35  | -  | -  | 0.10                                | 0.10 | -  | -  | 0.10                                | 0.10 | -  | -  | 0.10                                | 0.10 | -  | -  | 0.08                    | 0.08 |  |  |
|                                         | 2 Stage | -                     | -    | -  | -  | -                       | -    | -  | -  | -                   | -     | -  | -  | -                   | -     | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                       | -    |  |  |
| No. of lanes crossed                    |         | 2                     | 2    | 2  | 2  | 2                       | 2    | 2  | 2  | 2                   | 2     | 2  | 2  | 2                   | 2     | 2  | 2  | 2                                   | 2    | 2  | 2  | 2                                   | 2    | 2  | 2  | 2                                   | 2    | 2  | 2  | 2                       | 2    |  |  |

|                                         |         | 2021 Buildout Total - Phase 1 Alt 1 |      |    |    | 2021 Buildout Total - Phase 1 Alt 2 |      |    |    | 2021 Buildout Total - Phase 1 Alt 3 |      |    |    | 2021 Buildout Total - Phase 1 Alt 4 |      |    |    | 2029 Buildout Total - Phase 3 Alt 1 |      |    |    | 2029 Buildout Total - Phase 3 Alt 2 |      |    |    | 2029 Buildout Total - Phase 3 Alt 3 |      |    |    | 2029 Buildout Total - Phase 3 Alt 4 |      |    |    |
|-----------------------------------------|---------|-------------------------------------|------|----|----|-------------------------------------|------|----|----|-------------------------------------|------|----|----|-------------------------------------|------|----|----|-------------------------------------|------|----|----|-------------------------------------|------|----|----|-------------------------------------|------|----|----|-------------------------------------|------|----|----|
|                                         |         | NB                                  | SB   | EB | WB | NB                                  | SB   | EB | WB | NB                                  | SB   | EB | WB | NB                                  | SB   | EB | WB | NB                                  | SB   | EB | WB | NB                                  | SB   | EB | WB | NB                                  | SB   | EB | WB | NB                                  | SB   | EB | WB |
| Volume                                  | 1 Stage | 309                                 | 309  | -  | -  | 308                                 | 308  | -  | -  | 308                                 | 308  | -  | -  | 308                                 | 308  | -  | -  | 419                                 | 419  | -  | -  | 419                                 | 419  | -  | -  | 419                                 | 419  | -  | -  | 419                                 | 419  | -  | -  |
|                                         | 2 Stage | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  |    |
| Conflicting veh flow rate (veh/sec) (v) | 1 Stage | 0.09                                | 0.09 | -  | -  | 0.09                                | 0.09 | -  | -  | 0.09                                | 0.09 | -  | -  | 0.09                                | 0.09 | -  | -  | 0.12                                | 0.12 | -  | -  | 0.12                                | 0.12 | -  | -  | 0.12                                | 0.12 | -  | -  | 0.12                                | 0.12 | -  | -  |
|                                         | 2 Stage | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  |    |
| No. of lanes crossed                    |         | 2                                   | 2    | 2  | 2  | 2                                   | 2    | 2  | 2  | 2                                   | 2    | 2  | 2  | 2                                   | 2    | 2  | 2  | 2                                   | 2    | 2  | 2  | 2                                   | 2    | 2  | 2  | 2                                   | 2    | 2  | 2  | 2                                   | 2    | 2  |    |

|                                         |         | 2034 Buildout Total - Phase 3 Alt 1 |      |    |    | 2034 Buildout Total - Phase 3 Alt 2 |      |    |    | 2034 Buildout Total - Phase 3 Alt 3 |      |    |    | 2034 Buildout Total - Phase 3 Alt 4 |      |    |    | 2029 Background Traffic |      |    |    | 2029 Background Traffic with Superstreet (Alt 1 & 3) |      |    |    | 2034 Background Traffic with Superstreet (Alt 1 & 3) |      |    |    | 2034 Background Traffic with Superstreet (Alt 1 & 3) |      |    |    |
|-----------------------------------------|---------|-------------------------------------|------|----|----|-------------------------------------|------|----|----|-------------------------------------|------|----|----|-------------------------------------|------|----|----|-------------------------|------|----|----|------------------------------------------------------|------|----|----|------------------------------------------------------|------|----|----|------------------------------------------------------|------|----|----|
|                                         |         | NB                                  | SB   | EB | WB | NB                                  | SB   | EB | WB | NB                                  | SB   | EB | WB | NB                                  | SB   | EB | WB | NB                      | SB   | EB | WB | NB                                                   | SB   | EB | WB | NB                                                   | SB   | EB | WB | NB                                                   | SB   | EB | WB |
| Volume                                  | 1 Stage | 494                                 | 494  | -  | -  | 494                                 | 494  | -  | -  | 494                                 | 494  | -  | -  | 494                                 | 494  | -  | -  | 393                     | 393  | -  | -  | 393                                                  | 393  | -  | -  | 498                                                  | 498  | -  | -  | 498                                                  | 498  | -  | -  |
|                                         | 2 Stage | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                       | -    | -  | -  | -                                                    | -    | -  | -  | -                                                    | -    | -  | -  | -                                                    | -    | -  |    |
| Conflicting veh flow rate (veh/sec) (v) | 1 Stage | 0.14                                | 0.14 | -  | -  | 0.14                                | 0.14 | -  | -  | 0.14                                | 0.14 | -  | -  | 0.14                                | 0.14 | -  | -  | 0.11                    | 0.11 | -  | -  | 0.11                                                 | 0.11 | -  | -  | 0.13                                                 | 0.13 | -  | -  | 0.13                                                 | 0.13 | -  | -  |
|                                         | 2 Stage | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                       | -    | -  | -  | -                                                    | -    | -  | -  | -                                                    | -    | -  | -  | -                                                    | -    | -  |    |
| No. of lanes crossed                    |         | 2                                   | 2    | 2  | 2  | 2                                   | 2    | 2  | 2  | 2                                   | 2    | 2  | 2  | 2                                   | 2    | 2  | 2  | 2                       | 2    | 2  | 2  | 2                                                    | 2    | 2  | 2  | 2                                                    | 2    | 2  | 2  | 2                                                    | 2    | 2  |    |

| LOS | Control Delay (sec/pcd) | Comments                                                                 | From HCM 6 | Control delay is in seconds/pedestrian/s |
|-----|-------------------------|--------------------------------------------------------------------------|------------|------------------------------------------|
| A   | 5                       | Usually no conflicting traffic                                           |            |                                          |
| B   | 10                      | Occasionally some delay due to conflicting traffic                       |            |                                          |
| C   | 20                      | Delay noticeable to pedestrians, but not inconveniencing                 |            |                                          |
| D   | 30                      | Delay noticeable and irritating, increased likelihood of risk taking     |            |                                          |
| E   | 45                      | Delay approaches tolerance level, risk-taking behavior likely            |            |                                          |
| F   | > 45                    | Delay exceeds tolerance level, high likelihood of pedestrian risk taking |            |                                          |

| Stallings Road and Sweet Birch Drive<br>AM PEAK HOUR |                       |                      |                      |                      |  |
|------------------------------------------------------|-----------------------|----------------------|----------------------|----------------------|--|
|                                                      | Crossing NB Approach  | Crossing SB Approach | Crossing EB Approach | Crossing WB Approach |  |
| Major Street (Front Flow)                            |                       |                      |                      |                      |  |
| Crosswalk Length (ft)                                | L 25                  | 25                   | 0                    | 50                   |  |
| Walking Speed (ft/sec)                               | S <sub>w</sub> 3.5    | 3.5                  | 3.5                  | 3.5                  |  |
| Start Up Time                                        | t <sub>s</sub> 3      | 3                    | 3                    | 3                    |  |
| Critical Headway                                     | t <sub>c</sub> 10.14  | 10.14                | 3.00                 | 18.71                |  |
| 1 Stage Crossing? (Median > Y or N)                  | N                     | N                    | N                    | N                    |  |
| Yielding Vehicles? (Supergate < Y or N)              | N                     | N                    | N                    | N                    |  |
| 2020 Existing Traffic                                |                       |                      |                      |                      |  |
| Probability of Blocked Lane                          | P <sub>b</sub> 50%    | 50%                  | -                    | -                    |  |
| Probability of Delayed Crossing                      | P <sub>d</sub> 81%    | 81%                  | -                    | -                    |  |
| Average Gap Delay                                    | d <sub>g</sub> 15.69  | 15.69                | -                    | -                    |  |
| Non-zero Delay                                       | d <sub>np</sub> 19.48 | 19.48                | -                    | -                    |  |
| 2027 Background Traffic                              |                       |                      |                      |                      |  |
| Probability of Blocked Lane                          | P <sub>b</sub> 72%    | 72%                  | -                    | -                    |  |
| Probability of Delayed Crossing                      | P <sub>d</sub> 90%    | 90%                  | -                    | -                    |  |
| Average Gap Delay                                    | d <sub>g</sub> 36.00  | 36.00                | -                    | -                    |  |
| Non-zero Delay                                       | d <sub>np</sub> 39.06 | 39.06                | -                    | -                    |  |
| 2027 Buildout Total                                  |                       |                      |                      |                      |  |
| Probability of Blocked Lane                          | P <sub>b</sub> 75%    | 75%                  | -                    | -                    |  |
| Probability of Delayed Crossing                      | P <sub>d</sub> 94%    | 94%                  | -                    | -                    |  |
| Average Gap Delay                                    | d <sub>g</sub> 46.05  | 46.05                | -                    | -                    |  |
| Non-zero Delay                                       | d <sub>np</sub> 49.12 | 49.12                | -                    | -                    |  |
| 2032 Buildout Total                                  |                       |                      |                      |                      |  |
| Probability of Blocked Lane                          | P <sub>b</sub> 80%    | 80%                  | -                    | -                    |  |
| Probability of Delayed Crossing                      | P <sub>d</sub> 96%    | 96%                  | -                    | -                    |  |
| Average Gap Delay                                    | d <sub>g</sub> 64.23  | 64.23                | -                    | -                    |  |
| Non-zero Delay                                       | d <sub>np</sub> 67.01 | 67.01                | -                    | -                    |  |
| 2034 Buildout Total - Phase 1 AB 2                   |                       |                      |                      |                      |  |
| Probability of Blocked Lane                          | P <sub>b</sub> 38%    | 38%                  | -                    | -                    |  |
| Probability of Delayed Crossing                      | P <sub>d</sub> 96%    | 96%                  | -                    | -                    |  |
| Average Gap Delay                                    | d <sub>g</sub> 6.95   | 6.95                 | -                    | -                    |  |
| Non-zero Delay                                       | d <sub>np</sub> 7.24  | 7.24                 | -                    | -                    |  |
| 2034 Buildout Total - Phase 1 AB 3                   |                       |                      |                      |                      |  |
| Probability of Blocked Lane                          | P <sub>b</sub> 38%    | 38%                  | -                    | -                    |  |
| Probability of Delayed Crossing                      | P <sub>d</sub> 96%    | 96%                  | -                    | -                    |  |
| Average Gap Delay                                    | d <sub>g</sub> 6.95   | 6.95                 | -                    | -                    |  |
| Non-zero Delay                                       | d <sub>np</sub> 7.24  | 7.24                 | -                    | -                    |  |
| 2034 Buildout Total - Phase 1 AB 4                   |                       |                      |                      |                      |  |
| Probability of Blocked Lane                          | P <sub>b</sub> 38%    | 38%                  | -                    | -                    |  |
| Probability of Delayed Crossing                      | P <sub>d</sub> 96%    | 96%                  | -                    | -                    |  |
| Average Gap Delay                                    | d <sub>g</sub> 6.95   | 6.95                 | -                    | -                    |  |
| Non-zero Delay                                       | d <sub>np</sub> 7.24  | 7.24                 | -                    | -                    |  |
| 2021 Buildout Total - Phase 1 AB 1                   |                       |                      |                      |                      |  |
| Probability of Blocked Lane                          | P <sub>b</sub> 35%    | 35%                  | -                    | -                    |  |
| Probability of Delayed Crossing                      | P <sub>d</sub> 58%    | 58%                  | -                    | -                    |  |
| Average Gap Delay                                    | d <sub>g</sub> 5.93   | 5.93                 | -                    | -                    |  |
| Non-zero Delay                                       | d <sub>np</sub> 10.27 | 10.27                | -                    | -                    |  |
| 2021 Buildout Total - Phase 1 AB 2                   |                       |                      |                      |                      |  |
| Probability of Blocked Lane                          | P <sub>b</sub> 35%    | 35%                  | -                    | -                    |  |
| Probability of Delayed Crossing                      | P <sub>d</sub> 58%    | 58%                  | -                    | -                    |  |
| Average Gap Delay                                    | d <sub>g</sub> 5.93   | 5.93                 | -                    | -                    |  |
| Non-zero Delay                                       | d <sub>np</sub> 10.27 | 10.27                | -                    | -                    |  |
| 2021 Buildout Total - Phase 1 AB 3                   |                       |                      |                      |                      |  |
| Probability of Blocked Lane                          | P <sub>b</sub> 35%    | 35%                  | -                    | -                    |  |
| Probability of Delayed Crossing                      | P <sub>d</sub> 58%    | 58%                  | -                    | -                    |  |
| Average Gap Delay                                    | d <sub>g</sub> 5.93   | 5.93                 | -                    | -                    |  |
| Non-zero Delay                                       | d <sub>np</sub> 10.27 | 10.27                | -                    | -                    |  |
| 2021 Buildout Total - Phase 1 AB 4                   |                       |                      |                      |                      |  |
| Probability of Blocked Lane                          | P <sub>b</sub> 35%    | 35%                  | -                    | -                    |  |
| Probability of Delayed Crossing                      | P <sub>d</sub> 58%    | 58%                  | -                    | -                    |  |
| Average Gap Delay                                    | d <sub>g</sub> 5.93   | 5.93                 | -                    | -                    |  |
| Non-zero Delay                                       | d <sub>np</sub> 10.27 | 10.27                | -                    | -                    |  |
| 2029 Buildout Total - Phase 3 AB 1                   |                       |                      |                      |                      |  |
| Probability of Blocked Lane                          | P <sub>b</sub> 44%    | 44%                  | -                    | -                    |  |
| Probability of Delayed Crossing                      | P <sub>d</sub> 96%    | 96%                  | -                    | -                    |  |
| Average Gap Delay                                    | d <sub>g</sub> 8.95   | 8.95                 | -                    | -                    |  |
| Non-zero Delay                                       | d <sub>np</sub> 15.50 | 15.50                | -                    | -                    |  |
| 2029 Buildout Total - Phase 3 AB 2                   |                       |                      |                      |                      |  |
| Probability of Blocked Lane                          | P <sub>b</sub> 44%    | 44%                  | -                    | -                    |  |
| Probability of Delayed Crossing                      | P <sub>d</sub> 96%    | 96%                  | -                    | -                    |  |
| Average Gap Delay                                    | d <sub>g</sub> 8.95   | 8.95                 | -                    | -                    |  |
| Non-zero Delay                                       | d <sub>np</sub> 9.32  | 9.32                 | -                    | -                    |  |
| 2029 Buildout Total - Phase 3 AB 3                   |                       |                      |                      |                      |  |
| Probability of Blocked Lane                          | P <sub>b</sub> 44%    | 44%                  | -                    | -                    |  |
| Probability of Delayed Crossing                      | P <sub>d</sub> 96%    | 96%                  | -                    | -                    |  |
| Average Gap Delay                                    | d <sub>g</sub> 8.95   | 8.95                 | -                    | -                    |  |
| Non-zero Delay                                       | d <sub>np</sub> 9.32  | 9.32                 | -                    | -                    |  |
| 2029 Buildout Total - Phase 3 AB 4                   |                       |                      |                      |                      |  |
| Probability of Blocked Lane                          | P <sub>b</sub> 44%    | 44%                  | -                    | -                    |  |
| Probability of Delayed Crossing                      | P <sub>d</sub> 96%    | 96%                  | -                    | -                    |  |
| Average Gap Delay                                    | d <sub>g</sub> 8.95   | 8.95                 | -                    | -                    |  |
| Non-zero Delay                                       | d <sub>np</sub> 9.32  | 9.32                 | -                    | -                    |  |
| 2034 Buildout Total - Phase 3 AB 1                   |                       |                      |                      |                      |  |
| Probability of Blocked Lane                          | P <sub>b</sub> 49%    | 49%                  | -                    | -                    |  |
| Probability of Delayed Crossing                      | P <sub>d</sub> 74%    | 74%                  | -                    | -                    |  |
| Average Gap Delay                                    | d <sub>g</sub> 11.43  | 11.43                | -                    | -                    |  |
| Non-zero Delay                                       | d <sub>np</sub> 15.45 | 15.45                | -                    | -                    |  |
| 2034 Buildout Total - Phase 3 AB 2                   |                       |                      |                      |                      |  |
| Probability of Blocked Lane                          | P <sub>b</sub> 49%    | 49%                  | -                    | -                    |  |
| Probability of Delayed Crossing                      | P <sub>d</sub> 74%    | 74%                  | -                    | -                    |  |
| Average Gap Delay                                    | d <sub>g</sub> 11.43  | 11.43                | -                    | -                    |  |
| Non-zero Delay                                       | d <sub>np</sub> 15.45 | 15.45                | -                    | -                    |  |
| 2034 Buildout Total - Phase 3 AB 3                   |                       |                      |                      |                      |  |
| Probability of Blocked Lane                          | P <sub>b</sub> 49%    | 49%                  | -                    | -                    |  |
| Probability of Delayed Crossing                      | P <sub>d</sub> 74%    | 74%                  | -                    | -                    |  |
| Average Gap Delay                                    | d <sub>g</sub> 11.43  | 11.43                | -                    | -                    |  |
| Non-zero Delay                                       | d <sub>np</sub> 15.45 | 15.45                | -                    | -                    |  |
| 2034 Buildout Total - Phase 3 AB 4                   |                       |                      |                      |                      |  |
| Probability of Blocked Lane                          | P <sub>b</sub> 49%    | 49%                  | -                    | -                    |  |
| Probability of Delayed Crossing                      | P <sub>d</sub> 74%    | 74%                  | -                    | -                    |  |
| Average Gap Delay                                    | d <sub>g</sub> 11.43  | 11.43                | -                    | -                    |  |
| Non-zero Delay                                       | d <sub>np</sub> 23.33 | 23.33                | -                    | -                    |  |
| 2021 Background Traffic                              |                       |                      |                      |                      |  |
| Probability of Blocked Lane                          | P <sub>b</sub> 34%    | 34%                  | -                    | -                    |  |
| Probability of Delayed Crossing                      | P <sub>d</sub> 56%    | 56%                  | -                    | -                    |  |
| Average Gap Delay                                    | d <sub>g</sub> 5.70   | 5.70                 | -                    | -                    |  |
| Non-zero Delay                                       | d <sub>np</sub> 16.76 | 16.76                | -                    | -                    |  |
| 2029 Background Traffic                              |                       |                      |                      |                      |  |
| Probability of Blocked Lane                          | P <sub>b</sub> 42%    | 42%                  | -                    | -                    |  |
| Probability of Delayed Crossing                      | P <sub>d</sub> 69%    | 69%                  | -                    | -                    |  |
| Average Gap Delay                                    | d <sub>g</sub> 8.32   | 8.32                 | -                    | -                    |  |
| Non-zero Delay                                       | d <sub>np</sub> 19.81 | 19.81                | -                    | -                    |  |
| 2029 Background Traffic with Superstreet (AB 1 & 3)  |                       |                      |                      |                      |  |
| Probability of Blocked Lane                          | P <sub>b</sub> 37%    | 37%                  | -                    | -                    |  |
| Probability of Delayed Crossing                      | P <sub>d</sub> 60%    | 60%                  | -                    | -                    |  |
| Average Gap Delay                                    | d <sub>g</sub> 6.54   | 6.54                 | -                    | -                    |  |
| Non-zero Delay                                       | d <sub>np</sub> 17.68 | 17.68                | -                    | -                    |  |
| 2034 Background Traffic                              |                       |                      |                      |                      |  |
| Probability of Blocked Lane                          | P <sub>b</sub> 45%    | 45%                  | -                    | -                    |  |
| Probability of Delayed Crossing                      | P <sub>d</sub> 73%    | 73%                  | -                    | -                    |  |
| Average Gap Delay                                    | d <sub>g</sub> 10.70  | 10.70                | -                    | -                    |  |
| Non-zero Delay                                       | d <sub>np</sub> 22.29 | 22.29                | -                    | -                    |  |
| 2034 Background Traffic with Superstreet (AB 1 & 3)  |                       |                      |                      |                      |  |
| Probability of Blocked Lane                          | P <sub>b</sub> 48%    | 48%                  | -                    | -                    |  |
| Probability of Delayed Crossing                      | P <sub>d</sub> 73%    | 73%                  | -                    | -                    |  |
| Average Gap Delay                                    | d <sub>g</sub> 10.70  | 10.70                | -                    | -                    |  |
| Non-zero Delay                                       | d <sub>np</sub> 22.29 | 22.29                | -                    | -                    |  |

|                                          |         | 2020 Existing Traffic |      |      |    | 2027 Background Traffic |      |      |    | 2027 Buildout Total |      |      |    | 2032 Buildout Total |       |      |    | 2024 Buildout Total - Phase 1 A# 2 |      |      |    | 2024 Buildout Total - Phase 1 A# 3 |      |      |    | 2024 Buildout Total - Phase 1 A# 4 |      |      |    | 2023 Background Traffic |      |      |    |   |
|------------------------------------------|---------|-----------------------|------|------|----|-------------------------|------|------|----|---------------------|------|------|----|---------------------|-------|------|----|------------------------------------|------|------|----|------------------------------------|------|------|----|------------------------------------|------|------|----|-------------------------|------|------|----|---|
|                                          |         | NB                    | SB   | EB   | WB | NB                      | SB   | EB   | WB | NB                  | SB   | EB   | WB | NB                  | SB    | EB   | WB | NB                                 | SB   | EB   | WB | NB                                 | SB   | EB   | WB | NB                                 | SB   | EB   | WB | NB                      | SB   | EB   | WB |   |
| Volume                                   | 1 Stage | 585                   | 585  | -    | -  | 996                     | 996  | -    | -  | 996                 | 996  | -    | -  | 1,135               | 1,135 | -    | -  | 343                                | 343  | -    | -  | 343                                | 343  | -    | -  | 343                                | 343  | -    | -  | 296                     | 296  | -    | -  |   |
|                                          | 2 Stage | -                     | -    | -    | -  | -                       | -    | -    | -  | -                   | -    | -    | -  | -                   | -     | -    | -  | -                                  | -    | -    | -  | -                                  | -    | -    | -  | -                                  | -    | -    | -  | -                       | -    | -    | -  |   |
|                                          | 3 Stage | -                     | -    | -    | -  | -                       | -    | -    | -  | -                   | -    | -    | -  | -                   | -     | -    | -  | -                                  | -    | -    | -  | -                                  | -    | -    | -  | -                                  | -    | -    | -  | -                       | -    | -    | -  |   |
|                                          | 4 Stage | -                     | -    | -    | -  | -                       | -    | -    | -  | -                   | -    | -    | -  | -                   | -     | -    | -  | -                                  | -    | -    | -  | -                                  | -    | -    | -  | -                                  | -    | -    | -  | -                       | -    | -    | -  |   |
| Conflicting with flow rate (veh/sec) (v) |         | 1 Stage               | 0.16 | 0.16 | -  | -                       | 0.25 | 0.25 | -  | -                   | 0.28 | 0.28 | -  | -                   | 0.32  | 0.32 | -  | -                                  | 0.10 | 0.10 | -  | -                                  | 0.10 | 0.10 | -  | -                                  | 0.10 | 0.10 | -  | -                       | 0.08 | 0.08 | -  | - |
|                                          |         | 2 Stage               | -    | -    | -  | -                       | -    | -    | -  | -                   | -    | -    | -  | -                   | -     | -    | -  | -                                  | -    | -    | -  | -                                  | -    | -    | -  | -                                  | -    | -    | -  | -                       | -    | -    | -  | - |
| No. of lanes crossed                     |         | 2                     | 2    | 2    | 2  | 2                       | 2    | 2    | 2  | 2                   | 2    | 2    | 2  | 2                   | 2     | 2    | 2  | 2                                  | 2    | 2    | 2  | 2                                  | 2    | 2    | 2  | 2                                  | 2    | 2    | 2  | 2                       | 2    | 2    | 2  | 2 |

|                                           | 2021 Buildout Total - Phase 1 AB 2 |     |    |    | 2021 Buildout Total - Phase 1 AB 3 |     |    |    | 2021 Buildout Total - Phase 1 AB 3 |     |    |    | 2021 Buildout Total - Phase 1 AB 4 |     |    |    | 2029 Buildout Total - Phase 3 AB 1 |     |    |    | 2029 Buildout Total - Phase 3 AB 2 |     |    |    | 2029 Buildout Total - Phase 3 AB 3 |     |    |    | 2029 Buildout Total - Phase 3 AB 4 |     |    |    |         |  |  |  |         |  |  |  |      |  |  |  |
|-------------------------------------------|------------------------------------|-----|----|----|------------------------------------|-----|----|----|------------------------------------|-----|----|----|------------------------------------|-----|----|----|------------------------------------|-----|----|----|------------------------------------|-----|----|----|------------------------------------|-----|----|----|------------------------------------|-----|----|----|---------|--|--|--|---------|--|--|--|------|--|--|--|
|                                           | NB                                 | SB  | EB | WB | NB                                 | SB  | EB | WB | NB                                 | SB  | EB | WB | NB                                 | SB  | EB | WB | NB                                 | SB  | EB | WB | NB                                 | SB  | EB | WB | NB                                 | SB  | EB | WB | NB                                 | SB  | EB | WB |         |  |  |  |         |  |  |  |      |  |  |  |
|                                           | 305                                | 305 | -  | -  | 305                                | 305 | -  | -  | 305                                | 305 | -  | -  | 305                                | 305 | -  | -  | 410                                | 410 | -  | -  | 410                                | 410 | -  | -  | 410                                | 410 | -  | -  | 410                                | 410 | -  | -  |         |  |  |  |         |  |  |  |      |  |  |  |
| Volume                                    | 1 Stage                            |     |    |    | 2 Stage                            |     |    |    | 2 Stage                            |     |    |    | 2 Stage                            |     |    |    | 2 Stage                            |     |    |    | 2 Stage                            |     |    |    | 2 Stage                            |     |    |    | 2 Stage                            |     |    |    | 2 Stage |  |  |  | 2 Stage |  |  |  |      |  |  |  |
| Conflicting with flow rate (vehicles) (v) | 0.08                               |     |    |    | 0.08                               |     |    |    | 0.08                               |     |    |    | 0.08                               |     |    |    | 0.08                               |     |    |    | 0.11                               |     |    |    | 0.11                               |     |    |    | 0.11                               |     |    |    | 0.11    |  |  |  | 0.11    |  |  |  | 0.11 |  |  |  |
| No. of lanes crossed                      | 2                                  | 2   | 2  | 2  | 2                                  | 2   | 2  | 2  | 2                                  | 2   | 2  | 2  | 2                                  | 2   | 2  | 2  | 2                                  | 2   | 2  | 2  | 2                                  | 2   | 2  | 2  | 2                                  | 2   | 2  | 2  | 2                                  | 2   | 2  | 2  |         |  |  |  |         |  |  |  |      |  |  |  |

| Build 4-6                          |         |      |      |                                    |     |      |      |                                    |     |      |      |                                    |     |      |      |                         |     |      |      |                                                     |     |      |      |                         |     |      |      |                                                     |     |      |      |    |
|------------------------------------|---------|------|------|------------------------------------|-----|------|------|------------------------------------|-----|------|------|------------------------------------|-----|------|------|-------------------------|-----|------|------|-----------------------------------------------------|-----|------|------|-------------------------|-----|------|------|-----------------------------------------------------|-----|------|------|----|
| 2034 Buildout Total - Phase 3 AB 1 |         |      |      | 2034 Buildout Total - Phase 3 AB 2 |     |      |      | 2034 Buildout Total - Phase 3 AB 3 |     |      |      | 2034 Buildout Total - Phase 3 AB 4 |     |      |      | 2029 Background Traffic |     |      |      | 2029 Background Traffic with Superstreet (AB 1 & 3) |     |      |      | 2034 Background Traffic |     |      |      | 2034 Background Traffic with Superstreet (AB 1 & 3) |     |      |      |    |
|                                    | NB      | SB   | EB   | WB                                 | NB  | SB   | EB   | WB                                 | NB  | SB   | EB   | WB                                 | NB  | SB   | EB   | WB                      | NB  | SB   | EB   | WB                                                  | NB  | SB   | EB   | WB                      | NB  | SB   | EB   | WB                                                  | NB  | SB   | EB   | WB |
| Volume                             | 1 Stage | 462  | 462  | -                                  | 462 | 462  | -    | -                                  | 462 | 462  | -    | -                                  | 462 | 462  | -    | -                       | 390 | 390  | -    | -                                                   | 328 | 328  | -    | -                       | 462 | 462  | -    | -                                                   | 462 | 462  | -    | -  |
|                                    | 2 Stage | -    | -    | -                                  | -   | -    | -    | -                                  | -   | -    | -    | -                                  | -   | -    | -    | -                       | -   | -    | -    | -                                                   | -   | -    | -    | -                       | -   | -    | -    | -                                                   | -   | -    | -    |    |
|                                    | 3 Stage | 0.13 | 0.13 | -                                  | -   | 0.13 | 0.13 | -                                  | -   | 0.13 | 0.13 | -                                  | -   | 0.13 | 0.13 | -                       | -   | 0.11 | 0.11 | -                                                   | -   | 0.09 | 0.09 | -                       | -   | 0.13 | 0.13 | -                                                   | -   | 0.13 | 0.13 | -  |
| No. of lanes crossed               |         |      |      |                                    |     |      |      |                                    |     |      |      |                                    |     |      |      |                         |     |      |      |                                                     |     |      |      |                         |     |      |      |                                                     |     |      |      |    |
|                                    | 2       | 2    | 2    | 2                                  | 2   | 2    | 2    | 2                                  | 2   | 2    | 2    | 2                                  | 2   | 2    | 2    | 2                       | 2   | 2    | 2    | 2                                                   | 2   | 2    | 2    | 2                       | 2   | 2    | 2    | 2                                                   | 2   | 2    | 2    | 2  |

| LOS | Control Delay (sec/veh) | Comments                                                                 |            |
|-----|-------------------------|--------------------------------------------------------------------------|------------|
| A   | 5                       | Usually no conflicting traffic                                           | From HCM 6 |
| B   | 15                      | Occasionally some delay due to conflicting traffic                       |            |
| C   | 20                      | Delay noticeable to pedestrians, but not inconveniencing                 |            |
| D   | 30                      | Delay noticeable and irritating, increased likelihood of risk taking     |            |
| E   | 45                      | Delay approaches tolerance level, risk taking behavior likely            |            |
| F   | > 45                    | Delay exceeds tolerance level, high likelihood of pedestrian risk taking |            |

| Results                                             |       |      |      |   |
|-----------------------------------------------------|-------|------|------|---|
| 2020 Existing Traffic                               | Delay | 15.7 | 15.7 | - |
|                                                     | LOS   | C    | C    | - |
| 2027 Background Traffic                             | Delay | 36.0 | 36.0 | - |
|                                                     | LOS   | E    | E    | - |
| 2027 Buildout Total                                 | Delay | 46.1 | 46.1 | - |
|                                                     | LOS   | F    | F    | - |
| 2032 Buildout Total                                 | Delay | 64.3 | 64.3 | - |
|                                                     | LOS   | F    | F    | - |
| 2034 Buildout Total - Phase 1 AB 2                  | Delay | 7.0  | 7.0  | - |
|                                                     | LOS   | B    | B    | - |
| 2034 Buildout Total - Phase 1 AB 3                  | Delay | 7.0  | 7.0  | - |
|                                                     | LOS   | B    | B    | - |
| 2034 Buildout Total - Phase 1 AB 4                  | Delay | 7.0  | 7.0  | - |
|                                                     | LOS   | B    | B    | - |
| 2021 Buildout Total - Phase 1 AB 1                  | Delay | 5.9  | 5.9  | - |
|                                                     | LOS   | B    | B    | - |
| 2021 Buildout Total - Phase 1 AB 2                  | Delay | 5.9  | 5.9  | - |
|                                                     | LOS   | B    | B    | - |
| 2021 Buildout Total - Phase 1 AB 3                  | Delay | 5.9  | 5.9  | - |
|                                                     | LOS   | B    | B    | - |
| 2021 Buildout Total - Phase 1 AB 4                  | Delay | 5.9  | 5.9  | - |
|                                                     | LOS   | B    | B    | - |
| 2029 Buildout Total - Phase 3 AB 1                  | Delay | 9.0  | 9.0  | - |
|                                                     | LOS   | B    | B    | - |
| 2029 Buildout Total - Phase 3 AB 2                  | Delay | 9.0  | 9.0  | - |
|                                                     | LOS   | B    | B    | - |
| 2029 Buildout Total - Phase 3 AB 3                  | Delay | 9.0  | 9.0  | - |
|                                                     | LOS   | B    | B    | - |
| 2029 Buildout Total - Phase 3 AB 4                  | Delay | 9.0  | 9.0  | - |
|                                                     | LOS   | B    | B    | - |
| 2034 Buildout Total - Phase 3 AB 1                  | Delay | 11.4 | 11.4 | - |
|                                                     | LOS   | C    | C    | - |
| 2034 Buildout Total - Phase 3 AB 2                  | Delay | 11.4 | 11.4 | - |
|                                                     | LOS   | C    | C    | - |
| 2034 Buildout Total - Phase 3 AB 3                  | Delay | 11.4 | 11.4 | - |
|                                                     | LOS   | C    | C    | - |
| 2034 Buildout Total - Phase 3 AB 4                  | Delay | 11.4 | 11.4 | - |
|                                                     | LOS   | C    | C    | - |
| 2021 Background Traffic                             | Delay | 5.7  | 5.7  | - |
|                                                     | LOS   | B    | B    | - |
| 2029 Background Traffic                             | Delay | 8.3  | 8.3  | - |
|                                                     | LOS   | B    | B    | - |
| 2030 Background Traffic with Superstreet (AB 1 & 3) | Delay | 6.5  | 6.5  | - |
|                                                     | LOS   | B    | B    | - |
| 2034 Background Traffic                             | Delay | 10.7 | 10.7 | - |
|                                                     | LOS   | C    | C    | - |
| 2034 Background Traffic with Superstreet (AB 1 & 3) | Delay | 10.7 | 10.7 | - |
|                                                     | LOS   | C    | C    | - |

| Stallings Road and Sweet Birch Drive<br>PM PEAK HOUR |                      |                      |                      |                      |       |
|------------------------------------------------------|----------------------|----------------------|----------------------|----------------------|-------|
|                                                      | Crossing NB Approach | Crossing SB Approach | Crossing EB Approach | Crossing WB Approach |       |
| Major Street (Free Flow)                             | Y                    | Y                    | N                    | N                    |       |
| Crosswalk Length (ft)                                | L                    | 25                   | 3                    | 3                    | 18    |
| Walking Speed (ft/sec)                               | S <sub>w</sub>       | 3.5                  | 3.5                  | 3.5                  | 3.5   |
| Start Up Time                                        | t <sub>s</sub>       | 3                    | 3                    | 3                    | 3     |
| Critical Headway                                     | t <sub>c</sub>       | 10.14                | 10.14                | 3.00                 | 10.71 |
| 2 Stage Crossing? (Median > Y or N)                  | N                    | N                    | N                    | N                    |       |
| Yielding Vehicles? (Signage > Y or N)                | N                    | N                    | N                    | N                    |       |
| 2020 Existing Traffic                                |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 58%                  | 58%                  | -                    | -     |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 82%                  | 82%                  | -                    | -     |
| Average Gap Delay                                    | d <sub>g</sub>       | 17.06                | 17.06                | -                    | -     |
| Non-zero Delay                                       | d <sub>net</sub>     | 20.71                | 20.71                | -                    | -     |
| 2027 Background Traffic                              |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 75%                  | 75%                  | -                    | -     |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 94%                  | 94%                  | -                    | -     |
| Average Gap Delay                                    | d <sub>g</sub>       | 43.86                | 43.86                | -                    | -     |
| Non-zero Delay                                       | d <sub>net</sub>     | 46.78                | 46.78                | -                    | -     |
| 2032 Buildout Total                                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 75%                  | 75%                  | -                    | -     |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 96%                  | 96%                  | -                    | -     |
| Average Gap Delay                                    | d <sub>g</sub>       | 60.75                | 60.75                | -                    | -     |
| Non-zero Delay                                       | d <sub>net</sub>     | 63.55                | 63.55                | -                    | -     |
| 2034 Buildout Total                                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 83%                  | 83%                  | -                    | -     |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 97%                  | 97%                  | -                    | -     |
| Average Gap Delay                                    | d <sub>g</sub>       | 86.06                | 86.06                | -                    | -     |
| Non-zero Delay                                       | d <sub>net</sub>     | 88.62                | 88.62                | -                    | -     |
| 2024 Buildout Total - Phase 1 Alt 2                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 39%                  | 39%                  | -                    | -     |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 97%                  | 97%                  | -                    | -     |
| Average Gap Delay                                    | d <sub>g</sub>       | 7.15                 | 7.15                 | -                    | -     |
| Non-zero Delay                                       | d <sub>net</sub>     | 7.36                 | 7.36                 | -                    | -     |
| 2024 Buildout Total - Phase 1 Alt 3                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 39%                  | 39%                  | -                    | -     |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 97%                  | 97%                  | -                    | -     |
| Average Gap Delay                                    | d <sub>g</sub>       | 7.15                 | 7.15                 | -                    | -     |
| Non-zero Delay                                       | d <sub>net</sub>     | 7.36                 | 7.36                 | -                    | -     |
| 2024 Buildout Total - Phase 1 Alt 4                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 39%                  | 39%                  | -                    | -     |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 97%                  | 97%                  | -                    | -     |
| Average Gap Delay                                    | d <sub>g</sub>       | 7.15                 | 7.15                 | -                    | -     |
| Non-zero Delay                                       | d <sub>net</sub>     | 7.36                 | 7.36                 | -                    | -     |
| 2021 Buildout Total - Phase 1 Alt 1                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 35%                  | 35%                  | -                    | -     |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 58%                  | 58%                  | -                    | -     |
| Average Gap Delay                                    | d <sub>g</sub>       | 6.03                 | 6.03                 | -                    | -     |
| Non-zero Delay                                       | d <sub>net</sub>     | 10.44                | 10.44                | -                    | -     |
| 2021 Buildout Total - Phase 1 Alt 2                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 35%                  | 35%                  | -                    | -     |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 58%                  | 58%                  | -                    | -     |
| Average Gap Delay                                    | d <sub>g</sub>       | 6.01                 | 6.01                 | -                    | -     |
| Non-zero Delay                                       | d <sub>net</sub>     | 10.41                | 10.41                | -                    | -     |
| 2021 Buildout Total - Phase 1 Alt 3                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 35%                  | 35%                  | -                    | -     |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 58%                  | 58%                  | -                    | -     |
| Average Gap Delay                                    | d <sub>g</sub>       | 6.01                 | 6.01                 | -                    | -     |
| Non-zero Delay                                       | d <sub>net</sub>     | 10.41                | 10.41                | -                    | -     |
| 2021 Buildout Total - Phase 1 Alt 4                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 35%                  | 35%                  | -                    | -     |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 58%                  | 58%                  | -                    | -     |
| Average Gap Delay                                    | d <sub>g</sub>       | 6.01                 | 6.01                 | -                    | -     |
| Non-zero Delay                                       | d <sub>net</sub>     | 10.41                | 10.41                | -                    | -     |
| 2029 Buildout Total - Phase 3 Alt 1                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 45%                  | 45%                  | -                    | -     |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 58%                  | 58%                  | -                    | -     |
| Average Gap Delay                                    | d <sub>g</sub>       | 9.24                 | 9.24                 | -                    | -     |
| Non-zero Delay                                       | d <sub>net</sub>     | 16.00                | 16.00                | -                    | -     |
| 2029 Buildout Total - Phase 3 Alt 2                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 45%                  | 45%                  | -                    | -     |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 97%                  | 97%                  | -                    | -     |
| Average Gap Delay                                    | d <sub>g</sub>       | 9.24                 | 9.24                 | -                    | -     |
| Non-zero Delay                                       | d <sub>net</sub>     | 9.51                 | 9.51                 | -                    | -     |
| 2029 Buildout Total - Phase 3 Alt 3                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 45%                  | 45%                  | -                    | -     |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 97%                  | 97%                  | -                    | -     |
| Average Gap Delay                                    | d <sub>g</sub>       | 9.24                 | 9.24                 | -                    | -     |
| Non-zero Delay                                       | d <sub>net</sub>     | 9.51                 | 9.51                 | -                    | -     |
| 2029 Buildout Total - Phase 3 Alt 4                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 45%                  | 45%                  | -                    | -     |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 97%                  | 97%                  | -                    | -     |
| Average Gap Delay                                    | d <sub>g</sub>       | 9.24                 | 9.24                 | -                    | -     |
| Non-zero Delay                                       | d <sub>net</sub>     | 9.51                 | 9.51                 | -                    | -     |
| 2034 Buildout Total - Phase 3 Alt 1                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 50%                  | 50%                  | -                    | -     |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 75%                  | 75%                  | -                    | -     |
| Average Gap Delay                                    | d <sub>g</sub>       | 11.88                | 11.88                | -                    | -     |
| Non-zero Delay                                       | d <sub>net</sub>     | 15.84                | 15.84                | -                    | -     |
| 2034 Buildout Total - Phase 3 Alt 2                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 50%                  | 50%                  | -                    | -     |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 75%                  | 75%                  | -                    | -     |
| Average Gap Delay                                    | d <sub>g</sub>       | 11.88                | 11.88                | -                    | -     |
| Non-zero Delay                                       | d <sub>net</sub>     | 15.84                | 15.84                | -                    | -     |
| 2034 Buildout Total - Phase 3 Alt 3                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 50%                  | 50%                  | -                    | -     |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 75%                  | 75%                  | -                    | -     |
| Average Gap Delay                                    | d <sub>g</sub>       | 11.88                | 11.88                | -                    | -     |
| Non-zero Delay                                       | d <sub>net</sub>     | 15.84                | 15.84                | -                    | -     |
| 2034 Buildout Total - Phase 3 Alt 4                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 50%                  | 50%                  | -                    | -     |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 75%                  | 75%                  | -                    | -     |
| Average Gap Delay                                    | d <sub>g</sub>       | 11.88                | 11.88                | -                    | -     |
| Non-zero Delay                                       | d <sub>net</sub>     | 23.76                | 23.76                | -                    | -     |
| 2021 Background Traffic                              |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 34%                  | 34%                  | -                    | -     |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 56%                  | 56%                  | -                    | -     |
| Average Gap Delay                                    | d <sub>g</sub>       | 5.77                 | 5.77                 | -                    | -     |
| Non-zero Delay                                       | d <sub>net</sub>     | 16.97                | 16.97                | -                    | -     |
| 2029 Background Traffic                              |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 43%                  | 43%                  | -                    | -     |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 68%                  | 68%                  | -                    | -     |
| Average Gap Delay                                    | d <sub>g</sub>       | 8.42                 | 8.42                 | -                    | -     |
| Non-zero Delay                                       | d <sub>net</sub>     | 19.58                | 19.58                | -                    | -     |
| 2034 Background Traffic with Superstreet (Alt 1 & 3) |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 43%                  | 43%                  | -                    | -     |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 68%                  | 68%                  | -                    | -     |
| Average Gap Delay                                    | d <sub>g</sub>       | 8.42                 | 8.42                 | -                    | -     |
| Non-zero Delay                                       | d <sub>net</sub>     | 19.58                | 19.58                | -                    | -     |
| 2034 Background Traffic                              |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 48%                  | 48%                  | -                    | -     |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 73%                  | 73%                  | -                    | -     |

|                                         |         | 2020 Existing Traffic |      |    |    | 2027 Background Traffic |      |    |    | 2027 Buildout Total |       |    |    | 2032 Buildout Total |       |    |    | 2024 Buildout Total - Phase 1 Alt 2 |      |    |    | 2024 Buildout Total - Phase 1 Alt 3 |      |    |    | 2024 Buildout Total - Phase 1 Alt 4 |      |    |    | 2021 Background Traffic |      |  |  |
|-----------------------------------------|---------|-----------------------|------|----|----|-------------------------|------|----|----|---------------------|-------|----|----|---------------------|-------|----|----|-------------------------------------|------|----|----|-------------------------------------|------|----|----|-------------------------------------|------|----|----|-------------------------|------|--|--|
|                                         |         | NB                    | SB   | EB | WB | NB                      | SB   | EB | WB | NB                  | SB    | EB | WB | NB                  | SB    | EB | WB | NB                                  | SB   | EB | WB | NB                                  | SB   | EB | WB | NB                                  | SB   | EB | WB |                         |      |  |  |
| Volume                                  | 1 Stage | 614                   | 614  | -  | -  | 976                     | 976  | -  | -  | 1,111               | 1,111 | -  | -  | 1,258               | 1,258 | -  | -  | 350                                 | 350  | -  | -  | 350                                 | 350  | -  | -  | 350                                 | 350  | -  | -  | 299                     | 299  |  |  |
|                                         | 2 Stage | -                     | -    | -  | -  | -                       | -    | -  | -  | -                   | -     | -  | -  | -                   | -     | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                       | -    |  |  |
| Conflicting veh flow rate (veh/sec) (v) | 1 Stage | 0.17                  | 0.17 | -  | -  | 0.27                    | 0.27 | -  | -  | 0.31                | 0.31  | -  | -  | 0.35                | 0.35  | -  | -  | 0.10                                | 0.10 | -  | -  | 0.10                                | 0.10 | -  | -  | 0.10                                | 0.10 | -  | -  | 0.08                    | 0.08 |  |  |
|                                         | 2 Stage | -                     | -    | -  | -  | -                       | -    | -  | -  | -                   | -     | -  | -  | -                   | -     | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                       | -    |  |  |
| No. of lanes crossed                    |         | 2                     | 2    | 2  | 2  | 2                       | 2    | 2  | 2  | 2                   | 2     | 2  | 2  | 2                   | 2     | 2  | 2  | 2                                   | 2    | 2  | 2  | 2                                   | 2    | 2  | 2  | 2                                   | 2    | 2  | 2  | 2                       | 2    |  |  |

|                                         |         | 2021 Buildout Total - Phase 1 Alt 1 |      |    |    | 2021 Buildout Total - Phase 1 Alt 2 |      |    |    | 2021 Buildout Total - Phase 1 Alt 3 |      |    |    | 2021 Buildout Total - Phase 1 Alt 4 |      |    |    | 2029 Buildout Total - Phase 3 Alt 1 |      |    |    | 2029 Buildout Total - Phase 3 Alt 2 |      |    |    | 2029 Buildout Total - Phase 3 Alt 3 |      |    |    | 2029 Buildout Total - Phase 3 Alt 4 |      |    |    |
|-----------------------------------------|---------|-------------------------------------|------|----|----|-------------------------------------|------|----|----|-------------------------------------|------|----|----|-------------------------------------|------|----|----|-------------------------------------|------|----|----|-------------------------------------|------|----|----|-------------------------------------|------|----|----|-------------------------------------|------|----|----|
|                                         |         | NB                                  | SB   | EB | WB | NB                                  | SB   | EB | WB | NB                                  | SB   | EB | WB | NB                                  | SB   | EB | WB | NB                                  | SB   | EB | WB | NB                                  | SB   | EB | WB | NB                                  | SB   | EB | WB | NB                                  | SB   | EB | WB |
| Volume                                  | 1 Stage | 309                                 | 309  | -  | -  | 308                                 | 308  | -  | -  | 308                                 | 308  | -  | -  | 308                                 | 308  | -  | -  | 419                                 | 419  | -  | -  | 419                                 | 419  | -  | -  | 419                                 | 419  | -  | -  | 419                                 | 419  | -  | -  |
|                                         | 2 Stage | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  |    |
| Conflicting veh flow rate (veh/sec) (v) | 1 Stage | 0.09                                | 0.09 | -  | -  | 0.09                                | 0.09 | -  | -  | 0.09                                | 0.09 | -  | -  | 0.09                                | 0.09 | -  | -  | 0.12                                | 0.12 | -  | -  | 0.12                                | 0.12 | -  | -  | 0.12                                | 0.12 | -  | -  | 0.12                                | 0.12 | -  | -  |
|                                         | 2 Stage | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  |    |
| No. of lanes crossed                    |         | 2                                   | 2    | 2  | 2  | 2                                   | 2    | 2  | 2  | 2                                   | 2    | 2  | 2  | 2                                   | 2    | 2  | 2  | 2                                   | 2    | 2  | 2  | 2                                   | 2    | 2  | 2  | 2                                   | 2    | 2  | 2  | 2                                   | 2    | 2  |    |

|                                         |         | 2034 Buildout Total - Phase 3 Alt 1 |      |    |    | 2034 Buildout Total - Phase 3 Alt 2 |      |    |    | 2034 Buildout Total - Phase 3 Alt 3 |      |    |    | 2034 Buildout Total - Phase 3 Alt 4 |      |    |    | 2029 Background Traffic |      |    |    | 2029 Background Traffic with Superstreet (Alt 1 & 3) |      |    |    | 2034 Background Traffic with Superstreet (Alt 1 & 3) |      |    |    | 2034 Background Traffic with Superstreet (Alt 1 & 3) |      |    |    |
|-----------------------------------------|---------|-------------------------------------|------|----|----|-------------------------------------|------|----|----|-------------------------------------|------|----|----|-------------------------------------|------|----|----|-------------------------|------|----|----|------------------------------------------------------|------|----|----|------------------------------------------------------|------|----|----|------------------------------------------------------|------|----|----|
|                                         |         | NB                                  | SB   | EB | WB | NB                                  | SB   | EB | WB | NB                                  | SB   | EB | WB | NB                                  | SB   | EB | WB | NB                      | SB   | EB | WB | NB                                                   | SB   | EB | WB | NB                                                   | SB   | EB | WB | NB                                                   | SB   | EB | WB |
| Volume                                  | 1 Stage | 494                                 | 494  | -  | -  | 494                                 | 494  | -  | -  | 494                                 | 494  | -  | -  | 494                                 | 494  | -  | -  | 393                     | 393  | -  | -  | 393                                                  | 393  | -  | -  | 408                                                  | 408  | -  | -  | 408                                                  | 408  | -  | -  |
|                                         | 2 Stage | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                       | -    | -  | -  | -                                                    | -    | -  | -  | -                                                    | -    | -  | -  | -                                                    | -    | -  | -  |
| Conflicting veh flow rate (veh/sec) (v) | 1 Stage | 0.14                                | 0.14 | -  | -  | 0.14                                | 0.14 | -  | -  | 0.14                                | 0.14 | -  | -  | 0.14                                | 0.14 | -  | -  | 0.11                    | 0.11 | -  | -  | 0.11                                                 | 0.11 | -  | -  | 0.13                                                 | 0.13 | -  | -  | 0.13                                                 | 0.13 | -  | -  |
|                                         | 2 Stage | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                       | -    | -  | -  | -                                                    | -    | -  | -  | -                                                    | -    | -  | -  | -                                                    | -    | -  | -  |
| No. of lanes crossed                    |         | 2                                   | 2    | 2  | 2  | 2                                   | 2    | 2  | 2  | 2                                   | 2    | 2  | 2  | 2                                   | 2    | 2  | 2  | 2                       | 2    | 2  | 2  | 2                                                    | 2    | 2  | 2  | 2                                                    | 2    | 2  | 2  | 2                                                    | 2    | 2  | 2  |

| LOS | Control Delay (sec/pd) | Comments                                                                 | From HCM 6 | Control delay is in seconds/pedestrian |
|-----|------------------------|--------------------------------------------------------------------------|------------|----------------------------------------|
| A   | 5                      | Usually no conflicting traffic                                           |            |                                        |
| B   | 10                     | Occasionally some delay due to conflicting traffic                       |            |                                        |
| C   | 20                     | Delay noticeable to pedestrians, but not inconveniencing                 |            |                                        |
| D   | 30                     | Delay noticeable and irritating, increased likelihood of risk taking     |            |                                        |
| E   | 45                     | Delay approaches tolerance level, risk-taking behavior likely            |            |                                        |
| F   | > 45                   | Delay exceeds tolerance level, high likelihood of pedestrian risk taking |            |                                        |

| Sweet Birch Drive and Nouvelle Drive<br>AM PEAK HOUR |                 |                      |                      |                      |                      |
|------------------------------------------------------|-----------------|----------------------|----------------------|----------------------|----------------------|
|                                                      |                 | Crossing NB Approach | Crossing SB Approach | Crossing EB Approach | Crossing WB Approach |
| Major Street (Front Flow)                            |                 |                      |                      |                      |                      |
| Crosswalk Length (ft)                                | L               | 35                   | 0                    | 30                   | 30                   |
| Walking Speed (ft/sec)                               | S <sub>w</sub>  | 3.5                  | 3.5                  | 3.5                  | 3.5                  |
| Start Up Time                                        | t <sub>s</sub>  | 3                    | 3                    | 3                    | 3                    |
| Critical Headway                                     | t <sub>h</sub>  | 13.00                | 9.00                 | 11.57                | 11.57                |
| 1 Stage Crossing? (Median > Y or N)                  |                 | N                    | N                    | N                    | N                    |
| Yielding Vehicles? (Supplene < Y or N)               |                 | N                    | N                    | N                    | N                    |
| 2020 Existing Traffic                                |                 |                      |                      |                      |                      |
| Probability of Blocked Lane                          | P <sub>b</sub>  | -                    | -                    | 11%                  | 11%                  |
| Probability of Delayed Crossing                      | P <sub>d</sub>  | -                    | -                    | 21%                  | 21%                  |
| Average Gap Delay                                    | d <sub>g</sub>  | -                    | -                    | 1.51                 | 1.51                 |
| Non-zero Delay                                       | d <sub>nz</sub> | -                    | -                    | 7.26                 | 7.26                 |
| 2027 Background Traffic                              |                 |                      |                      |                      |                      |
| Probability of Blocked Lane                          | P <sub>b</sub>  | -                    | -                    | 14%                  | 14%                  |
| Probability of Delayed Crossing                      | P <sub>d</sub>  | -                    | -                    | 26%                  | 26%                  |
| Average Gap Delay                                    | d <sub>g</sub>  | -                    | -                    | 1.96                 | 1.96                 |
| Non-zero Delay                                       | d <sub>nz</sub> | -                    | -                    | 7.53                 | 7.53                 |
| 2027 Buildout Total                                  |                 |                      |                      |                      |                      |
| Probability of Blocked Lane                          | P <sub>b</sub>  | -                    | -                    | 15%                  | 15%                  |
| Probability of Delayed Crossing                      | P <sub>d</sub>  | -                    | -                    | 28%                  | 28%                  |
| Average Gap Delay                                    | d <sub>g</sub>  | -                    | -                    | 2.17                 | 2.17                 |
| Non-zero Delay                                       | d <sub>nz</sub> | -                    | -                    | 7.82                 | 7.82                 |
| 2032 Buildout Total                                  |                 |                      |                      |                      |                      |
| Probability of Blocked Lane                          | P <sub>b</sub>  | -                    | -                    | 18%                  | 18%                  |
| Probability of Delayed Crossing                      | P <sub>d</sub>  | -                    | -                    | 33%                  | 33%                  |
| Average Gap Delay                                    | d <sub>g</sub>  | -                    | -                    | 2.62                 | 2.62                 |
| Non-zero Delay                                       | d <sub>nz</sub> | -                    | -                    | 8.00                 | 8.00                 |
| 2034 Buildout Total - Phase 1 AB 2                   |                 |                      |                      |                      |                      |
| Probability of Blocked Lane                          | P <sub>b</sub>  | -                    | -                    | 32%                  | 32%                  |
| Probability of Delayed Crossing                      | P <sub>d</sub>  | -                    | -                    | 33%                  | 33%                  |
| Average Gap Delay                                    | d <sub>g</sub>  | -                    | -                    | 5.78                 | 5.78                 |
| Non-zero Delay                                       | d <sub>nz</sub> | -                    | -                    | 17.64                | 17.64                |
| 2034 Buildout Total - Phase 1 AB 3                   |                 |                      |                      |                      |                      |
| Probability of Blocked Lane                          | P <sub>b</sub>  | -                    | -                    | 32%                  | 32%                  |
| Probability of Delayed Crossing                      | P <sub>d</sub>  | -                    | -                    | 33%                  | 33%                  |
| Average Gap Delay                                    | d <sub>g</sub>  | -                    | -                    | 5.78                 | 5.78                 |
| Non-zero Delay                                       | d <sub>nz</sub> | -                    | -                    | 17.64                | 17.64                |
| 2034 Buildout Total - Phase 1 AB 4                   |                 |                      |                      |                      |                      |
| Probability of Blocked Lane                          | P <sub>b</sub>  | -                    | -                    | 32%                  | 32%                  |
| Probability of Delayed Crossing                      | P <sub>d</sub>  | -                    | -                    | 33%                  | 33%                  |
| Average Gap Delay                                    | d <sub>g</sub>  | -                    | -                    | 5.78                 | 5.78                 |
| Non-zero Delay                                       | d <sub>nz</sub> | -                    | -                    | 17.64                | 17.64                |
| 2021 Buildout Total - Phase 1 AB 1                   |                 |                      |                      |                      |                      |
| Probability of Blocked Lane                          | P <sub>b</sub>  | -                    | -                    | 29%                  | 29%                  |
| Probability of Delayed Crossing                      | P <sub>d</sub>  | -                    | -                    | 50%                  | 50%                  |
| Average Gap Delay                                    | d <sub>g</sub>  | -                    | -                    | 5.10                 | 5.10                 |
| Non-zero Delay                                       | d <sub>nz</sub> | -                    | -                    | 10.28                | 10.28                |
| 2021 Buildout Total - Phase 1 AB 2                   |                 |                      |                      |                      |                      |
| Probability of Blocked Lane                          | P <sub>b</sub>  | -                    | -                    | 29%                  | 29%                  |
| Probability of Delayed Crossing                      | P <sub>d</sub>  | -                    | -                    | 50%                  | 50%                  |
| Average Gap Delay                                    | d <sub>g</sub>  | -                    | -                    | 5.10                 | 5.10                 |
| Non-zero Delay                                       | d <sub>nz</sub> | -                    | -                    | 10.28                | 10.28                |
| 2021 Buildout Total - Phase 1 AB 3                   |                 |                      |                      |                      |                      |
| Probability of Blocked Lane                          | P <sub>b</sub>  | -                    | -                    | 29%                  | 29%                  |
| Probability of Delayed Crossing                      | P <sub>d</sub>  | -                    | -                    | 50%                  | 50%                  |
| Average Gap Delay                                    | d <sub>g</sub>  | -                    | -                    | 5.10                 | 5.10                 |
| Non-zero Delay                                       | d <sub>nz</sub> | -                    | -                    | 10.28                | 10.28                |
| 2021 Buildout Total - Phase 1 AB 4                   |                 |                      |                      |                      |                      |
| Probability of Blocked Lane                          | P <sub>b</sub>  | -                    | -                    | 29%                  | 29%                  |
| Probability of Delayed Crossing                      | P <sub>d</sub>  | -                    | -                    | 50%                  | 50%                  |
| Average Gap Delay                                    | d <sub>g</sub>  | -                    | -                    | 5.10                 | 5.10                 |
| Non-zero Delay                                       | d <sub>nz</sub> | -                    | -                    | 10.28                | 10.28                |
| 2029 Buildout Total - Phase 3 AB 1                   |                 |                      |                      |                      |                      |
| Probability of Blocked Lane                          | P <sub>b</sub>  | -                    | -                    | 37%                  | 37%                  |
| Probability of Delayed Crossing                      | P <sub>d</sub>  | -                    | -                    | 60%                  | 60%                  |
| Average Gap Delay                                    | d <sub>g</sub>  | -                    | -                    | 7.30                 | 7.30                 |
| Non-zero Delay                                       | d <sub>nz</sub> | -                    | -                    | 14.72                | 14.72                |
| 2029 Buildout Total - Phase 3 AB 2                   |                 |                      |                      |                      |                      |
| Probability of Blocked Lane                          | P <sub>b</sub>  | -                    | -                    | 37%                  | 37%                  |
| Probability of Delayed Crossing                      | P <sub>d</sub>  | -                    | -                    | 33%                  | 33%                  |
| Average Gap Delay                                    | d <sub>g</sub>  | -                    | -                    | 7.30                 | 7.30                 |
| Non-zero Delay                                       | d <sub>nz</sub> | -                    | -                    | 22.28                | 22.28                |
| 2029 Buildout Total - Phase 3 AB 3                   |                 |                      |                      |                      |                      |
| Probability of Blocked Lane                          | P <sub>b</sub>  | -                    | -                    | 37%                  | 37%                  |
| Probability of Delayed Crossing                      | P <sub>d</sub>  | -                    | -                    | 33%                  | 33%                  |
| Average Gap Delay                                    | d <sub>g</sub>  | -                    | -                    | 7.30                 | 7.30                 |
| Non-zero Delay                                       | d <sub>nz</sub> | -                    | -                    | 22.28                | 22.28                |
| 2029 Buildout Total - Phase 3 AB 4                   |                 |                      |                      |                      |                      |
| Probability of Blocked Lane                          | P <sub>b</sub>  | -                    | -                    | 27%                  | 27%                  |
| Probability of Delayed Crossing                      | P <sub>d</sub>  | -                    | -                    | 33%                  | 33%                  |
| Average Gap Delay                                    | d <sub>g</sub>  | -                    | -                    | 7.30                 | 7.30                 |
| Non-zero Delay                                       | d <sub>nz</sub> | -                    | -                    | 22.28                | 22.28                |
| 2034 Buildout Total - Phase 3 AB 1                   |                 |                      |                      |                      |                      |
| Probability of Blocked Lane                          | P <sub>b</sub>  | -                    | -                    | 42%                  | 42%                  |
| Probability of Delayed Crossing                      | P <sub>d</sub>  | -                    | -                    | 66%                  | 66%                  |
| Average Gap Delay                                    | d <sub>g</sub>  | -                    | -                    | 9.23                 | 9.23                 |
| Non-zero Delay                                       | d <sub>nz</sub> | -                    | -                    | 13.91                | 13.91                |
| 2034 Buildout Total - Phase 3 AB 2                   |                 |                      |                      |                      |                      |
| Probability of Blocked Lane                          | P <sub>b</sub>  | -                    | -                    | 42%                  | 42%                  |
| Probability of Delayed Crossing                      | P <sub>d</sub>  | -                    | -                    | 66%                  | 66%                  |
| Average Gap Delay                                    | d <sub>g</sub>  | -                    | -                    | 9.23                 | 9.23                 |
| Non-zero Delay                                       | d <sub>nz</sub> | -                    | -                    | 13.91                | 13.91                |
| 2034 Buildout Total - Phase 3 AB 3                   |                 |                      |                      |                      |                      |
| Probability of Blocked Lane                          | P <sub>b</sub>  | -                    | -                    | 42%                  | 42%                  |
| Probability of Delayed Crossing                      | P <sub>d</sub>  | -                    | -                    | 66%                  | 66%                  |
| Average Gap Delay                                    | d <sub>g</sub>  | -                    | -                    | 9.23                 | 9.23                 |
| Non-zero Delay                                       | d <sub>nz</sub> | -                    | -                    | 13.91                | 13.91                |
| 2034 Buildout Total - Phase 3 AB 4                   |                 |                      |                      |                      |                      |
| Probability of Blocked Lane                          | P <sub>b</sub>  | -                    | -                    | 42%                  | 42%                  |
| Probability of Delayed Crossing                      | P <sub>d</sub>  | -                    | -                    | 66%                  | 66%                  |
| Average Gap Delay                                    | d <sub>g</sub>  | -                    | -                    | 9.23                 | 9.23                 |
| Non-zero Delay                                       | d <sub>nz</sub> | -                    | -                    | 21.98                | 21.98                |
| 2021 Background Traffic                              |                 |                      |                      |                      |                      |
| Probability of Blocked Lane                          | P <sub>b</sub>  | -                    | -                    | 29%                  | 29%                  |
| Probability of Delayed Crossing                      | P <sub>d</sub>  | -                    | -                    | 50%                  | 50%                  |
| Average Gap Delay                                    | d <sub>g</sub>  | -                    | -                    | 5.10                 | 5.10                 |
| Non-zero Delay                                       | d <sub>nz</sub> | -                    | -                    | 17.59                | 17.59                |
| 2029 Background Traffic                              |                 |                      |                      |                      |                      |
| Probability of Blocked Lane                          | P <sub>b</sub>  | -                    | -                    | 37%                  | 37%                  |
| Probability of Delayed Crossing                      | P <sub>d</sub>  | -                    | -                    | 60%                  | 60%                  |
| Average Gap Delay                                    | d <sub>g</sub>  | -                    | -                    | 7.30                 | 7.30                 |
| Non-zero Delay                                       | d <sub>nz</sub> | -                    | -                    | 19.73                | 19.73                |
| 2029 Background Traffic with Superstreet (AB 1 & 3)  |                 |                      |                      |                      |                      |
| Probability of Blocked Lane                          | P <sub>b</sub>  | -                    | -                    | 32%                  | 32%                  |
| Probability of Delayed Crossing                      | P <sub>d</sub>  | -                    | -                    | 44%                  | 44%                  |
| Average Gap Delay                                    | d <sub>g</sub>  | -                    | -                    | 5.78                 | 5.78                 |
| Non-zero Delay                                       | d <sub>nz</sub> | -                    | -                    | 18.06                | 18.06                |
| 2034 Background Traffic                              |                 |                      |                      |                      |                      |
| Probability of Blocked Lane                          | P <sub>b</sub>  | -                    | -                    | 42%                  | 42%                  |
| Probability of Delayed Crossing                      | P <sub>d</sub>  | -                    | -                    | 66%                  | 66%                  |
| Average Gap Delay                                    | d <sub>g</sub>  | -                    | -                    | 9.23                 | 9.23                 |
| Non-zero Delay                                       | d <sub>nz</sub> | -                    | -                    | 21.98                | 21.98                |
| 2034 Background Traffic with Superstreet (AB 1 & 3)  |                 |                      |                      |                      |                      |
| Probability of Blocked Lane                          | P <sub>b</sub>  | -                    | -                    | 42%                  | 42%                  |
| Probability of Delayed Crossing                      | P <sub>d</sub>  | -                    | -                    | 66%                  | 66%                  |
| Average Gap Delay                                    | d <sub>g</sub>  | -                    | -                    | 9.23                 | 9.23                 |
| Non-zero Delay                                       | d <sub>nz</sub> | -                    | -                    | 21.98                | 21.98                |

|                                           |         | 2020 Existing Traffic |    |    | 2027 Background Traffic |      |      | 2027 Buildout Total |    |      | 2032 Buildout Total |    |    | 2034 Buildout Total - Phase 1 AB 2 |      |    | 2034 Buildout Total - Phase 1 AB 3 |      |      | 2034 Buildout Total - Phase 1 AB 4 |    |      | 2021 Background Traffic |    |    |
|-------------------------------------------|---------|-----------------------|----|----|-------------------------|------|------|---------------------|----|------|---------------------|----|----|------------------------------------|------|----|------------------------------------|------|------|------------------------------------|----|------|-------------------------|----|----|
|                                           |         | NB                    | SB | EB | WB                      | NB   | SB   | EB                  | WB | NB   | SB                  | EB | WB | NB                                 | SB   | EB | WB                                 | NB   | SB   | EB                                 | WB | NB   | SB                      | EB | WB |
| Volume                                    | B       | -                     | -  | -  | -                       | 75   | 75   | -                   | -  | 95   | 95                  | -  | -  | 125                                | 125  | -  | -                                  | 237  | 237  | -                                  | -  | 255  | 255                     | -  | -  |
| Conflicting with flow rate (vehicles) (v) | 1 Stage | -                     | -  | -  | -                       | 0.02 | 0.02 | -                   | -  | 0.03 | 0.03                | -  | -  | 0.03                               | 0.03 | -  | -                                  | 0.07 | 0.07 | -                                  | -  | 0.07 | 0.07                    | -  | -  |
| Conflicting with flow rate (vehicles) (v) | 2 Stage | -                     | -  | -  | -                       | -    | -    | -                   | -  | -    | -                   | -  | -  | -                                  | -    | -  | -                                  | -    | -    | -                                  | -  | -    | -                       | -  | -  |
| No. of lanes crossed                      |         | 2                     | 2  | 2  | 2                       | 2    | 2    | 2                   | 2  | 2    | 2                   | 2  | 2  | 2                                  | 2    | 2  | 2                                  | 2    | 2    | 2                                  | 2  | 2    | 2                       | 2  | 2  |

|                                           |         | 2021 Buildout Total - Phase 1 AB 1 |    |    | 2021 Buildout Total - Phase 1 AB 2 |      |      | 2021 Buildout Total - Phase 1 AB 3 |    |      | 2021 Buildout Total - Phase 1 AB 4 |    |    | 2029 Background Traffic |      |    | 2029 Background Traffic with Superstreet (AB 1 & 3) |      |      | 2029 Buildout Total - Phase 3 AB 3 |    |      | 2029 Buildout Total - Phase 3 AB 4 |    |    |
|-------------------------------------------|---------|------------------------------------|----|----|------------------------------------|------|------|------------------------------------|----|------|------------------------------------|----|----|-------------------------|------|----|-----------------------------------------------------|------|------|------------------------------------|----|------|------------------------------------|----|----|
|                                           |         | NB                                 | SB | EB | WB                                 | NB   | SB   | EB                                 | WB | NB   | SB                                 | EB | WB | NB                      | SB   | EB | WB                                                  | NB   | SB   | EB                                 | WB | NB   | SB                                 | EB | WB |
| Volume                                    | 1 Stage | -                                  | -  | -  | -                                  | 215  | 215  | -                                  | -  | 215  | 215                                | -  | -  | 215                     | 215  | -  | -                                                   | 263  | 263  | -                                  | -  | 263  | 263                                | -  | -  |
| Conflicting with flow rate (vehicles) (v) | 2 Stage | -                                  | -  | -  | -                                  | 0.06 | 0.06 | -                                  | -  | 0.06 | 0.06                               | -  | -  | 0.06                    | 0.06 | -  | -                                                   | 0.08 | 0.08 | -                                  | -  | 0.08 | 0.08                               | -  | -  |
| No. of lanes crossed                      |         | 2                                  | 2  | 2  | 2                                  | 2    | 2    | 2                                  | 2  | 2    | 2                                  | 2  | 2  | 2                       | 2    | 2  | 2                                                   | 2    | 2    | 2                                  | 2  | 2    | 2                                  | 2  | 2  |

|                                           |         | 2034 Buildout Total - Phase 3 AB 1 |    |    | 2034 Buildout Total - Phase 3 AB 2 |      |      | 2034 Buildout Total - Phase 3 AB 3 |    |      | 2034 Buildout Total - Phase 3 AB 4 |    |    | 2029 Background Traffic |      |    | 2029 Background Traffic with Superstreet (AB 1 & 3) |      |      | 2034 Background Traffic |    |      | 2034 Background Traffic with Superstreet (AB 1 & 3) |    |    |
|-------------------------------------------|---------|------------------------------------|----|----|------------------------------------|------|------|------------------------------------|----|------|------------------------------------|----|----|-------------------------|------|----|-----------------------------------------------------|------|------|-------------------------|----|------|-----------------------------------------------------|----|----|
|                                           |         | NB                                 | SB | EB | WB                                 | NB   | SB   | EB                                 | WB | NB   | SB                                 | EB | WB | NB                      | SB   | EB | WB                                                  | NB   | SB   | EB                      | WB | NB   | SB                                                  | EB | WB |
| Volume                                    | 1 Stage | -                                  | -  | -  | -                                  | 335  | 335  | -                                  | -  | 335  | 335                                | -  | -  | 335                     | 335  | -  | -                                                   | 263  | 263  | -                       | -  | 335  | 335                                                 | -  | -  |
| Conflicting with flow rate (vehicles) (v) | 2 Stage | -                                  | -  | -  | -                                  | 0.09 | 0.09 | -                                  | -  | 0.09 | 0.09                               | -  | -  | 0.09                    | 0.09 | -  | -                                                   | 0.08 | 0.08 | -                       | -  | 0.09 | 0.09                                                | -  | -  |
| No. of lanes crossed                      |         | 2                                  | 2  | 2  | 2                                  | 2    | 2    | 2                                  | 2  | 2    | 2                                  | 2  | 2  | 2                       | 2    | 2  | 2                                                   | 2    | 2    | 2                       | 2  | 2    | 2                                                   | 2  | 2  |

| LOS | Control Delay (sec/ped) | Comments                                                                 | From HCM 6 |
|-----|-------------------------|--------------------------------------------------------------------------|------------|
| A   | 5                       | Usually no conflicting traffic                                           |            |
| B   | 10                      | Occasionally some delay due to conflicting traffic                       |            |
| C   | 20                      | Delay noticeable to pedestrians, but not inconveniencing                 |            |
| D   | 30                      | Delay noticeable and irritating, increased likelihood of risk taking     |            |
| E   | 45                      | Delay approaches tolerance level, risk taking behavior likely            |            |
| F   | > 45                    | Delay exceeds tolerance level, high likelihood of pedestrian risk taking |            |

| Results                                             |       |   |         |
|-----------------------------------------------------|-------|---|---------|
| 2020 Existing Traffic                               | Delay | - | 1.5 1.5 |
|                                                     | LOS   | - | A A     |
| 2027 Background Traffic                             | Delay | - | 2.0 2.0 |
|                                                     | LOS   | - | A A     |
| 2027 Buildout Total                                 | Delay | - | 2.2 2.2 |
|                                                     | LOS   | - | A A     |
| 2032 Buildout Total                                 | Delay | - | 2.6 2.6 |
|                                                     | LOS   | - | A A     |
| 2034 Buildout Total - Phase 1 AB 2                  | Delay | - | 5.8 5.8 |
|                                                     | LOS   | - | B B     |
| 2034 Buildout Total - Phase 1 AB 3                  | Delay | - | 5.8 5.8 |
|                                                     | LOS   | - | B B     |
| 2034 Buildout Total - Phase 1 AB 4                  | Delay | - | 5.8 5.8 |
|                                                     | LOS   | - | B B     |
| 2021 Buildout Total - Phase 1 AB 1                  | Delay | - | 5.1 5.1 |
|                                                     | LOS   | - | B B     |
| 2021 Buildout Total - Phase 1 AB 2                  | Delay | - | 5.1 5.1 |
|                                                     | LOS   | - | B B     |
| 2021 Buildout Total - Phase 1 AB 3                  | Delay | - | 5.1 5.1 |
|                                                     | LOS   | - | B B     |
| 2021 Buildout Total - Phase 1 AB 4                  | Delay | - | 5.1 5.1 |
|                                                     | LOS   | - | B B     |
| 2029 Buildout Total - Phase 3 AB 1                  | Delay | - | 7.3 7.3 |
|                                                     | LOS   | - | B B     |
| 2029 Buildout Total - Phase 3 AB 2                  | Delay | - | 7.3 7.3 |
|                                                     | LOS   | - | B B     |
| 2029 Buildout Total - Phase 3 AB 3                  | Delay | - | 7.3 7.3 |
|                                                     | LOS   | - | B B     |
| 2029 Buildout Total - Phase 3 AB 4                  | Delay | - | 7.3 7.3 |
|                                                     | LOS   | - | B B     |
| 2034 Buildout Total - Phase 3 AB 1                  | Delay | - | 9.2 9.2 |
|                                                     | LOS   | - | B B     |
| 2034 Buildout Total - Phase 3 AB 2                  | Delay | - | 9.2 9.2 |
|                                                     | LOS   | - | B B     |
| 2034 Buildout Total - Phase 3 AB 3                  | Delay | - | 9.2 9.2 |
|                                                     | LOS   | - | B B     |
| 2034 Buildout Total - Phase 3 AB 4                  | Delay | - | 9.2 9.2 |
|                                                     | LOS   | - | B B     |
| 2021 Background Traffic                             | Delay | - | 5.1 5.1 |
|                                                     | LOS   | - | B B     |
| 2029 Background Traffic                             | Delay | - | 7.3 7.3 |
|                                                     | LOS   | - | B B     |
| 2030 Background Traffic with Superstreet (AB 1 & 3) | Delay | - | 5.8 5.8 |
|                                                     | LOS   | - | B B     |
| 2034 Background Traffic                             | Delay | - | 9.2 9.2 |
|                                                     | LOS   | - | B B     |
| 2034 Background Traffic with Superstreet (AB 1 & 3) | Delay | - | 9.2 9.2 |
|                                                     | LOS   | - | B B     |

| Sweet Birch Drive and Nouvelle Drive                 |                      |                      |                      |                      |       |
|------------------------------------------------------|----------------------|----------------------|----------------------|----------------------|-------|
| PM PEAK HOUR                                         |                      |                      |                      |                      |       |
|                                                      | Crossing NB Approach | Crossing SB Approach | Crossing EB Approach | Crossing WB Approach |       |
| Major Street (Free Flow)                             | N                    | N                    | Y                    | Y                    |       |
| Crosswalk Length (ft)                                | L                    | -                    | 30                   | 30                   |       |
| Walking Speed (ft/sec)                               | S <sub>w</sub>       | 3.5                  | 3.5                  | 3.5                  | 3.5   |
| Start Up Time                                        | t <sub>s</sub>       | 3                    | 3                    | 3                    | 3     |
| Critical Headway                                     | t <sub>c</sub>       | 13.00                | 3.00                 | 11.57                | 11.57 |
| 2 Stage Crossing? (Median > Y or N)                  | N                    | N                    | N                    | N                    | N     |
| Yielding Vehicles? (Signage > Y or N)                | N                    | N                    | N                    | N                    | N     |
| 2020 Existing Traffic                                |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | -                    | 15%                  | 15%   |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | -                    | 28%                  | 28%   |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | -                    | 2.10                 | 2.10  |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | -                    | 7.57                 | 7.57  |
| 2027 Background Traffic                              |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | -                    | 19%                  | 19%   |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | -                    | 34%                  | 34%   |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | -                    | 2.74                 | 2.74  |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | -                    | 7.97                 | 7.97  |
| 2032 Buildout Total                                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | -                    | 20%                  | 20%   |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | -                    | 36%                  | 36%   |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | -                    | 3.07                 | 3.07  |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | -                    | 8.53                 | 8.53  |
| 2034 Buildout Total - Phase 1 Alt 2                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | -                    | 30%                  | 30%   |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | -                    | 41%                  | 41%   |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | -                    | 5.25                 | 5.25  |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | -                    | 12.90                | 12.90 |
| 2034 Buildout Total - Phase 1 Alt 3                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | -                    | 30%                  | 30%   |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | -                    | 41%                  | 41%   |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | -                    | 5.25                 | 5.25  |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | -                    | 12.90                | 12.90 |
| 2034 Buildout Total - Phase 1 Alt 4                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | -                    | 30%                  | 30%   |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | -                    | 41%                  | 41%   |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | -                    | 5.25                 | 5.25  |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | -                    | 12.90                | 12.90 |
| 2021 Buildout Total - Phase 1 Alt 1                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | -                    | 27%                  | 27%   |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | -                    | 47%                  | 47%   |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | -                    | 4.61                 | 4.61  |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | -                    | 9.87                 | 9.87  |
| 2021 Buildout Total - Phase 1 Alt 2                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | -                    | 27%                  | 27%   |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | -                    | 47%                  | 47%   |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | -                    | 4.61                 | 4.61  |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | -                    | 9.87                 | 9.87  |
| 2021 Buildout Total - Phase 1 Alt 3                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | -                    | 27%                  | 27%   |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | -                    | 47%                  | 47%   |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | -                    | 4.61                 | 4.61  |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | -                    | 9.87                 | 9.87  |
| 2021 Buildout Total - Phase 1 Alt 4                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | -                    | 27%                  | 27%   |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | -                    | 47%                  | 47%   |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | -                    | 4.61                 | 4.61  |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | -                    | 9.87                 | 9.87  |
| 2029 Buildout Total - Phase 3 Alt 1                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | -                    | 34%                  | 34%   |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | -                    | 47%                  | 47%   |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | -                    | 6.55                 | 6.55  |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | -                    | 14.02                | 14.02 |
| 2029 Buildout Total - Phase 3 Alt 2                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | -                    | 34%                  | 34%   |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | -                    | 41%                  | 41%   |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | -                    | 6.55                 | 6.55  |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | -                    | 16.09                | 16.09 |
| 2029 Buildout Total - Phase 3 Alt 3                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | -                    | 34%                  | 34%   |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | -                    | 41%                  | 41%   |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | -                    | 6.55                 | 6.55  |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | -                    | 16.09                | 16.09 |
| 2029 Buildout Total - Phase 3 Alt 4                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | -                    | 34%                  | 34%   |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | -                    | 41%                  | 41%   |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | -                    | 6.55                 | 6.55  |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | -                    | 16.09                | 16.09 |
| 2034 Buildout Total - Phase 3 Alt 1                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | -                    | 39%                  | 39%   |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | -                    | 63%                  | 63%   |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | -                    | 8.27                 | 8.27  |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | -                    | 13.17                | 13.17 |
| 2034 Buildout Total - Phase 3 Alt 2                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | -                    | 39%                  | 39%   |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | -                    | 63%                  | 63%   |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | -                    | 8.27                 | 8.27  |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | -                    | 13.17                | 13.17 |
| 2034 Buildout Total - Phase 3 Alt 3                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | -                    | 39%                  | 39%   |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | -                    | 63%                  | 63%   |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | -                    | 8.27                 | 8.27  |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | -                    | 13.17                | 13.17 |
| 2034 Buildout Total - Phase 3 Alt 4                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | -                    | 39%                  | 39%   |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | -                    | 63%                  | 63%   |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | -                    | 8.27                 | 8.27  |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | -                    | 21.21                | 21.21 |
| 2021 Background Traffic                              |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | -                    | 27%                  | 27%   |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | -                    | 47%                  | 47%   |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | -                    | 4.61                 | 4.61  |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | -                    | 17.07                | 17.07 |
| 2029 Background Traffic                              |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | -                    | 34%                  | 34%   |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | -                    | 56%                  | 56%   |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | -                    | 6.55                 | 6.55  |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | -                    | 19.26                | 19.26 |
| 2029 Background Traffic with Superstreet (Alt 1 & 3) |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | -                    | 34%                  | 34%   |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | -                    | 56%                  | 56%   |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | -                    | 6.55                 | 6.55  |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | -                    | 19.26                | 19.26 |
| 2034 Background Traffic                              |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | -                    | 39%                  | 39%   |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | -                    | 63%                  | 63%   |

|                                         |         | 2020 Existing Traffic |    |      |      | 2027 Background Traffic |    |      |      | 2027 Buildout Total |    |      |      | 2032 Buildout Total |    |      |      | 2034 Buildout Total - Phase 1 Alt 2 |    |      |      | 2034 Buildout Total - Phase 1 Alt 3 |    |      |      | 2034 Buildout Total - Phase 1 Alt 4 |    |      |      | 2021 Background Traffic |    |      |      |     |
|-----------------------------------------|---------|-----------------------|----|------|------|-------------------------|----|------|------|---------------------|----|------|------|---------------------|----|------|------|-------------------------------------|----|------|------|-------------------------------------|----|------|------|-------------------------------------|----|------|------|-------------------------|----|------|------|-----|
|                                         |         | NB                    | SB | EB   | WB   | NB                      | SB | EB   | WB   | NB                  | SB | EB   | WB   | NB                  | SB | EB   | WB   | NB                                  | SB | EB   | WB   | NB                                  | SB | EB   | WB   | NB                                  | SB | EB   | WB   | NB                      | SB | EB   | WB   |     |
| Volume                                  | 1 Stage | -                     | -  | -    | 101  | 101                     | -  | -    | 126  | 126                 | -  | -    | 141  | 141                 | -  | -    | 166  | 166                                 | -  | -    | 220  | 220                                 | -  | -    | 220  | 220                                 | -  | -    | 220  | 220                     | -  | -    | 196  | 196 |
|                                         | 2 Stage | -                     | -  | -    | -    | -                       | -  | -    | -    | -                   | -  | -    | -    | -                   | -  | -    | -    | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                       | -  | -    | -    |     |
| Conflicting veh flow rate (veh/sec) (v) | 1 Stage | -                     | -  | 0.03 | 0.03 | -                       | -  | 0.04 | 0.04 | -                   | -  | 0.04 | 0.04 | -                   | -  | 0.05 | 0.05 | -                                   | -  | 0.06 | 0.06 | -                                   | -  | 0.06 | 0.06 | -                                   | -  | 0.06 | 0.06 | -                       | -  | 0.06 | 0.06 |     |
|                                         | 2 Stage | -                     | -  | -    | -    | -                       | -  | -    | -    | -                   | -  | -    | -    | -                   | -  | -    | -    | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                       | -  | -    | -    |     |
| No. of lanes crossed                    |         | 2                     | 2  | 2    | 2    | 2                       | 2  | 2    | 2    | 2                   | 2  | 2    | 2    | 2                   | 2  | 2    | 2    | 2                                   | 2  | 2    | 2    | 2                                   | 2  | 2    | 2    | 2                                   | 2  | 2    | 2    | 2                       | 2  | 2    | 2    |     |

|                                         |         | 2021 Buildout Total - Phase 1 Alt 1 |    |      |      | 2021 Buildout Total - Phase 1 Alt 2 |    |      |      | 2021 Buildout Total - Phase 1 Alt 3 |    |      |      | 2021 Buildout Total - Phase 1 Alt 4 |    |      |      | 2029 Buildout Total - Phase 3 Alt 1 |    |      |      | 2029 Buildout Total - Phase 3 Alt 2 |    |      |      | 2029 Buildout Total - Phase 3 Alt 3 |    |      |      | 2029 Buildout Total - Phase 3 Alt 4 |    |      |      |     |
|-----------------------------------------|---------|-------------------------------------|----|------|------|-------------------------------------|----|------|------|-------------------------------------|----|------|------|-------------------------------------|----|------|------|-------------------------------------|----|------|------|-------------------------------------|----|------|------|-------------------------------------|----|------|------|-------------------------------------|----|------|------|-----|
|                                         |         | NB                                  | SB | EB   | WB   | NB                                  | SB | EB   | WB   | NB                                  | SB | EB   | WB   | NB                                  | SB | EB   | WB   | NB                                  | SB | EB   | WB   | NB                                  | SB | EB   | WB   | NB                                  | SB | EB   | WB   | NB                                  | SB | EB   | WB   |     |
| Volume                                  | 1 Stage | -                                   | -  | -    | 198  | 198                                 | -  | -    | 196  | 196                                 | -  | -    | 196  | 196                                 | -  | -    | 196  | 196                                 | -  | -    | 261  | 261                                 | -  | -    | 261  | 261                                 | -  | -    | 261  | 261                                 | -  | -    | 261  | 261 |
|                                         | 2 Stage | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                                   | -  | -    | -    |     |
| Conflicting veh flow rate (veh/sec) (v) | 1 Stage | -                                   | -  | 0.06 | 0.06 | -                                   | -  | 0.06 | 0.06 | -                                   | -  | 0.06 | 0.06 | -                                   | -  | 0.06 | 0.06 | -                                   | -  | 0.07 | 0.07 | -                                   | -  | 0.07 | 0.07 | -                                   | -  | 0.07 | 0.07 | -                                   | -  | 0.07 | 0.07 |     |
|                                         | 2 Stage | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                                   | -  | -    | -    |     |
| No. of lanes crossed                    |         | 2                                   | 2  | 2    | 2    | 2                                   | 2  | 2    | 2    | 2                                   | 2  | 2    | 2    | 2                                   | 2  | 2    | 2    | 2                                   | 2  | 2    | 2    | 2                                   | 2  | 2    | 2    | 2                                   | 2  | 2    | 2    | 2                                   | 2  | 2    | 2    |     |

|                                         |         | 2034 Buildout Total - Phase 3 Alt 1 |    |      |      | 2034 Buildout Total - Phase 3 Alt 2 |    |      |      | 2034 Buildout Total - Phase 3 Alt 3 |    |      |      | 2034 Buildout Total - Phase 3 Alt 4 |    |      |      | 2029 Background Traffic |    |      |      | 2029 Background Traffic with Superstreet (Alt 1 & 3) |    |      |      | 2034 Background Traffic with Superstreet (Alt 1 & 3) |    |      |      |     |
|-----------------------------------------|---------|-------------------------------------|----|------|------|-------------------------------------|----|------|------|-------------------------------------|----|------|------|-------------------------------------|----|------|------|-------------------------|----|------|------|------------------------------------------------------|----|------|------|------------------------------------------------------|----|------|------|-----|
|                                         |         | NB                                  | SB | EB   | WB   | NB                                  | SB | EB   | WB   | NB                                  | SB | EB   | WB   | NB                                  | SB | EB   | WB   | NB                      | SB | EB   | WB   | NB                                                   | SB | EB   | WB   | NB                                                   | SB | EB   | WB   |     |
| Volume                                  | 1 Stage | -                                   | -  | -    | 310  | 310                                 | -  | -    | 310  | 310                                 | -  | -    | 310  | 310                                 | -  | -    | 361  | 361                     | -  | -    | 361  | 361                                                  | -  | -    | 310  | 310                                                  | -  | -    | 310  | 310 |
|                                         | 2 Stage | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                       | -  | -    | -    | -                                                    | -  | -    | -    | -                                                    | -  | -    | -    |     |
| Conflicting veh flow rate (veh/sec) (v) | 1 Stage | -                                   | -  | 0.09 | 0.09 | -                                   | -  | 0.09 | 0.09 | -                                   | -  | 0.09 | 0.09 | -                                   | -  | 0.09 | 0.09 | -                       | -  | 0.07 | 0.07 | -                                                    | -  | 0.09 | 0.09 | -                                                    | -  | 0.09 | 0.09 |     |
|                                         | 2 Stage | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                       | -  | -    | -    | -                                                    | -  | -    | -    | -                                                    | -  | -    | -    |     |
| No. of lanes crossed                    |         | 2                                   | 2  | 2    | 2    | 2                                   | 2  | 2    | 2    | 2                                   | 2  | 2    | 2    | 2                                   | 2  | 2    | 2    | 2                       | 2  | 2    | 2    | 2                                                    | 2  | 2    | 2    | 2                                                    | 2  | 2    | 2    |     |

| LOS | Control Delay (sec/pid) | Comments                                                                 | From HCM 6 |
|-----|-------------------------|--------------------------------------------------------------------------|------------|
| A   | 5                       | Usually no conflicting traffic                                           |            |
| B   | 10                      | Occasionally some delay due to conflicting traffic                       |            |
| C   | 20                      | Delay noticeable to pedestrians, but not inconveniencing                 |            |
| D   | 30                      | Delay noticeable and irritating, increased likelihood of risk taking     |            |
| E   | 45                      | Delay approaches tolerance level, risk-taking behavior likely            |            |
| F   | > 45                    | Delay exceeds tolerance level, high likelihood of pedestrian risk taking |            |

|                                                      |  | Results |   |   |         |
|------------------------------------------------------|--|---------|---|---|---------|
| 2020 Existing Traffic                                |  | Delay   | - | - | 2.1 2.1 |
|                                                      |  | LOS     | - | - | A A     |
| 2027 Background Traffic                              |  | Delay   | - | - | 2.7 2.7 |
|                                                      |  | LOS     | - | - | A A     |
| 2027 Buildout Total                                  |  | Delay   | - | - | 3.1 3.1 |
|                                                      |  | LOS     | - | - | A A     |
| 2032 Buildout Total                                  |  | Delay   | - | - | 3.7 3.7 |
|                                                      |  | LOS     | - | - | A A     |
| 2024 Buildout Total - Phase 1 All 2                  |  | Delay   | - | - | 5.3 5.3 |
|                                                      |  | LOS     | - | - | B B     |
| 2024 Buildout Total - Phase 1 All 3                  |  | Delay   | - | - | 5.3 5.3 |
|                                                      |  | LOS     | - | - | B B     |
| 2024 Buildout Total - Phase 1 All 4                  |  | Delay   | - | - | 4.6 4.6 |
|                                                      |  | LOS     | - | - | A A     |
| 2021 Buildout Total - Phase 1 All 2                  |  | Delay   | - | - | 4.6 4.6 |
|                                                      |  | LOS     | - | - | A A     |
| 2021 Buildout Total - Phase 1 All 3                  |  | Delay   | - | - | 4.6 4.6 |
|                                                      |  | LOS     | - | - | A A     |
| 2021 Buildout Total - Phase 1 All 4                  |  | Delay   | - | - | 4.6 4.6 |
|                                                      |  | LOS     | - | - | A A     |
| 2029 Buildout Total - Phase 3 All 1                  |  | Delay   | - | - | 6.6 6.6 |
|                                                      |  | LOS     | - | - | B B     |
| 2029 Buildout Total - Phase 3 All 2                  |  | Delay   | - | - | 6.6 6.6 |
|                                                      |  | LOS     | - | - | B B     |
| 2029 Buildout Total - Phase 3 All 3                  |  | Delay   | - | - | 6.6 6.6 |
|                                                      |  | LOS     | - | - | B B     |
| 2029 Buildout Total - Phase 3 All 4                  |  | Delay   | - | - | 6.6 6.6 |
|                                                      |  | LOS     | - | - | B B     |
| 2034 Buildout Total - Phase 3 All 1                  |  | Delay   | - | - | 8.3 8.3 |
|                                                      |  | LOS     | - | - | B B     |
| 2034 Buildout Total - Phase 3 All 2                  |  | Delay   | - | - | 8.3 8.3 |
|                                                      |  | LOS     | - | - | B B     |
| 2034 Buildout Total - Phase 3 All 3                  |  | Delay   | - | - | 6.3 6.3 |
|                                                      |  | LOS     | - | - | B B     |
| 2034 Buildout Total - Phase 3 All 4                  |  | Delay   | - | - | 8.3 8.3 |
|                                                      |  | LOS     | - | - | B B     |
| 2027 Background Traffic                              |  | Delay   | - | - | 4.6 4.6 |
|                                                      |  | LOS     | - | - | A A     |
| 2029 Background Traffic                              |  | Delay   | - | - | 6.6 6.6 |
|                                                      |  | LOS     | - | - | B B     |
| 2029 Background Traffic with Superstreet (Alt 1 & 2) |  | Delay   | - | - | 6.6 6.6 |
|                                                      |  | LOS     | - | - | B B     |
| 2034 Background Traffic                              |  | Delay   | - | - | 8.3 8.3 |
|                                                      |  | LOS     | - | - | B B     |
| 2034 Background Traffic with Superstreet (Alt 1 & 2) |  | Delay   | - | - | 6.3 6.3 |
|                                                      |  | LOS     | - | - | B B     |



| M11 Harmony Church Rd and Stevens Mill Rd<br>AM PEAK HOUR |                      |                      |                      |                      |       |   |   |
|-----------------------------------------------------------|----------------------|----------------------|----------------------|----------------------|-------|---|---|
|                                                           | Crossing NB Approach | Crossing SB Approach | Crossing EB Approach | Crossing WB Approach |       |   |   |
| Major Street (Free Flow)                                  | Y                    | Y                    | N                    | N                    |       |   |   |
| Crosswalk Length (ft)                                     | L                    | 60                   | 80                   | 70                   | 60    |   |   |
| Rolling Stop (Speed Reduction)                            | S                    | 3.5                  | 3.5                  | 3.5                  | 3.5   |   |   |
| Start Up Time                                             | U                    | 3                    | 3                    | 3                    | 3     |   |   |
| Critical Headway                                          | L                    | 21.57                | 25.86                | 23.00                | 20.14 |   |   |
| 2 Stage Crossing? (Median = Y or N)                       | N                    | N                    | N                    | N                    | N     |   |   |
| Vehicle/Vehicle? (Signage = Y or N)                       | N                    | N                    | N                    | N                    | N     |   |   |
| 2020 Existing Traffic                                     |                      |                      |                      |                      |       |   |   |
| Probability of Blocked Lane                               | P <sub>b</sub>       | 38%                  | 43%                  | -                    | -     | - | - |
| Probability of Delayed Crossing                           | P <sub>d</sub>       | 62%                  | 68%                  | -                    | -     | - | - |
| Average Gap Delay                                         | d <sub>g</sub>       | 24.23                | 22.23                | -                    | -     | - | - |
| Non-zero Delay                                            | d <sub>n</sub>       | 23.34                | 22.93                | -                    | -     | - | - |
| 2027 Buildout Total                                       |                      |                      |                      |                      |       |   |   |
| Probability of Blocked Lane                               | P <sub>b</sub>       | 69%                  | 52%                  | -                    | -     | - | - |
| Probability of Delayed Crossing                           | P <sub>d</sub>       | 70%                  | 77%                  | -                    | -     | - | - |
| Average Gap Delay                                         | d <sub>g</sub>       | 20.40                | 32.36                | -                    | -     | - | - |
| Non-zero Delay                                            | d <sub>n</sub>       | 29.29                | 42.05                | -                    | -     | - | - |
| 2027 Buildout Total - Phase 1 A&2                         |                      |                      |                      |                      |       |   |   |
| Probability of Blocked Lane                               | P <sub>b</sub>       | 64%                  | 71%                  | -                    | -     | - | - |
| Probability of Delayed Crossing                           | P <sub>d</sub>       | 76%                  | 82%                  | -                    | -     | - | - |
| Average Gap Delay                                         | d <sub>g</sub>       | 49.89                | 86.54                | -                    | -     | - | - |
| Non-zero Delay                                            | d <sub>n</sub>       | 65.65                | 105.56               | -                    | -     | - | - |
| 2027 Buildout Total - Phase 1 A&3                         |                      |                      |                      |                      |       |   |   |
| Probability of Blocked Lane                               | P <sub>b</sub>       | 64%                  | 71%                  | -                    | -     | - | - |
| Probability of Delayed Crossing                           | P <sub>d</sub>       | 76%                  | 82%                  | -                    | -     | - | - |
| Average Gap Delay                                         | d <sub>g</sub>       | 49.89                | 86.54                | -                    | -     | - | - |
| Non-zero Delay                                            | d <sub>n</sub>       | 65.65                | 105.56               | -                    | -     | - | - |
| 2027 Buildout Total - Phase 1 A&4                         |                      |                      |                      |                      |       |   |   |
| Probability of Blocked Lane                               | P <sub>b</sub>       | 64%                  | 71%                  | -                    | -     | - | - |
| Probability of Delayed Crossing                           | P <sub>d</sub>       | 76%                  | 82%                  | -                    | -     | - | - |
| Average Gap Delay                                         | d <sub>g</sub>       | 49.89                | 86.54                | -                    | -     | - | - |
| Non-zero Delay                                            | d <sub>n</sub>       | 65.65                | 105.56               | -                    | -     | - | - |
| 2021 Buildout Total - Phase 1 A&1                         |                      |                      |                      |                      |       |   |   |
| Probability of Blocked Lane                               | P <sub>b</sub>       | 60%                  | 67%                  | -                    | -     | - | - |
| Probability of Delayed Crossing                           | P <sub>d</sub>       | 84%                  | 89%                  | -                    | -     | - | - |
| Average Gap Delay                                         | d <sub>g</sub>       | 40.03                | 67.88                | -                    | -     | - | - |
| Non-zero Delay                                            | d <sub>n</sub>       | 47.65                | 76.18                | -                    | -     | - | - |
| 2021 Buildout Total - Phase 1 A&2                         |                      |                      |                      |                      |       |   |   |
| Probability of Blocked Lane                               | P <sub>b</sub>       | 60%                  | 67%                  | -                    | -     | - | - |
| Probability of Delayed Crossing                           | P <sub>d</sub>       | 84%                  | 89%                  | -                    | -     | - | - |
| Average Gap Delay                                         | d <sub>g</sub>       | 40.03                | 67.88                | -                    | -     | - | - |
| Non-zero Delay                                            | d <sub>n</sub>       | 47.65                | 76.18                | -                    | -     | - | - |
| 2021 Buildout Total - Phase 1 A&3                         |                      |                      |                      |                      |       |   |   |
| Probability of Blocked Lane                               | P <sub>b</sub>       | 60%                  | 67%                  | -                    | -     | - | - |
| Probability of Delayed Crossing                           | P <sub>d</sub>       | 84%                  | 89%                  | -                    | -     | - | - |
| Average Gap Delay                                         | d <sub>g</sub>       | 40.03                | 67.88                | -                    | -     | - | - |
| Non-zero Delay                                            | d <sub>n</sub>       | 47.65                | 76.18                | -                    | -     | - | - |
| 2021 Buildout Total - Phase 1 A&4                         |                      |                      |                      |                      |       |   |   |
| Probability of Blocked Lane                               | P <sub>b</sub>       | 60%                  | 67%                  | -                    | -     | - | - |
| Probability of Delayed Crossing                           | P <sub>d</sub>       | 84%                  | 89%                  | -                    | -     | - | - |
| Average Gap Delay                                         | d <sub>g</sub>       | 40.03                | 67.88                | -                    | -     | - | - |
| Non-zero Delay                                            | d <sub>n</sub>       | 47.65                | 76.18                | -                    | -     | - | - |
| 2029 Buildout Total - Phase 3 A&1                         |                      |                      |                      |                      |       |   |   |
| Probability of Blocked Lane                               | P <sub>b</sub>       | 71%                  | 77%                  | -                    | -     | - | - |
| Probability of Delayed Crossing                           | P <sub>d</sub>       | 84%                  | 89%                  | -                    | -     | - | - |
| Average Gap Delay                                         | d <sub>g</sub>       | 72.09                | 132.26               | -                    | -     | - | - |
| Non-zero Delay                                            | d <sub>n</sub>       | 86.82                | 148.42               | -                    | -     | - | - |
| 2029 Buildout Total - Phase 3 A&2                         |                      |                      |                      |                      |       |   |   |
| Probability of Blocked Lane                               | P <sub>b</sub>       | 71%                  | 77%                  | -                    | -     | - | - |
| Probability of Delayed Crossing                           | P <sub>d</sub>       | 76%                  | 82%                  | -                    | -     | - | - |
| Average Gap Delay                                         | d <sub>g</sub>       | 72.09                | 132.26               | -                    | -     | - | - |
| Non-zero Delay                                            | d <sub>n</sub>       | 94.87                | 160.59               | -                    | -     | - | - |
| 2029 Buildout Total - Phase 3 A&3                         |                      |                      |                      |                      |       |   |   |
| Probability of Blocked Lane                               | P <sub>b</sub>       | 71%                  | 77%                  | -                    | -     | - | - |
| Probability of Delayed Crossing                           | P <sub>d</sub>       | 76%                  | 82%                  | -                    | -     | - | - |
| Average Gap Delay                                         | d <sub>g</sub>       | 72.09                | 132.26               | -                    | -     | - | - |
| Non-zero Delay                                            | d <sub>n</sub>       | 94.87                | 160.59               | -                    | -     | - | - |
| 2029 Buildout Total - Phase 3 A&4                         |                      |                      |                      |                      |       |   |   |
| Probability of Blocked Lane                               | P <sub>b</sub>       | 71%                  | 77%                  | -                    | -     | - | - |
| Probability of Delayed Crossing                           | P <sub>d</sub>       | 76%                  | 82%                  | -                    | -     | - | - |
| Average Gap Delay                                         | d <sub>g</sub>       | 72.09                | 132.26               | -                    | -     | - | - |
| Non-zero Delay                                            | d <sub>n</sub>       | 94.87                | 160.59               | -                    | -     | - | - |
| 2034 Buildout Total - Phase 3 A&1                         |                      |                      |                      |                      |       |   |   |
| Probability of Blocked Lane                               | P <sub>b</sub>       | 76%                  | 82%                  | -                    | -     | - | - |
| Probability of Delayed Crossing                           | P <sub>d</sub>       | 94%                  | 97%                  | -                    | -     | - | - |
| Average Gap Delay                                         | d <sub>g</sub>       | 105.10               | 204.78               | -                    | -     | - | - |
| Non-zero Delay                                            | d <sub>n</sub>       | 111.52               | 211.64               | -                    | -     | - | - |
| 2034 Buildout Total - Phase 3 A&2                         |                      |                      |                      |                      |       |   |   |
| Probability of Blocked Lane                               | P <sub>b</sub>       | 76%                  | 82%                  | -                    | -     | - | - |
| Probability of Delayed Crossing                           | P <sub>d</sub>       | 94%                  | 97%                  | -                    | -     | - | - |
| Average Gap Delay                                         | d <sub>g</sub>       | 105.10               | 204.78               | -                    | -     | - | - |
| Non-zero Delay                                            | d <sub>n</sub>       | 111.52               | 211.64               | -                    | -     | - | - |
| 2034 Buildout Total - Phase 3 A&3                         |                      |                      |                      |                      |       |   |   |
| Probability of Blocked Lane                               | P <sub>b</sub>       | 76%                  | 82%                  | -                    | -     | - | - |
| Probability of Delayed Crossing                           | P <sub>d</sub>       | 94%                  | 97%                  | -                    | -     | - | - |
| Average Gap Delay                                         | d <sub>g</sub>       | 105.10               | 204.78               | -                    | -     | - | - |
| Non-zero Delay                                            | d <sub>n</sub>       | 111.52               | 211.64               | -                    | -     | - | - |
| 2034 Buildout Total - Phase 3 A&4                         |                      |                      |                      |                      |       |   |   |
| Probability of Blocked Lane                               | P <sub>b</sub>       | 76%                  | 82%                  | -                    | -     | - | - |
| Probability of Delayed Crossing                           | P <sub>d</sub>       | 94%                  | 97%                  | -                    | -     | - | - |
| Average Gap Delay                                         | d <sub>g</sub>       | 105.10               | 204.78               | -                    | -     | - | - |
| Non-zero Delay                                            | d <sub>n</sub>       | 118.29               | 249.73               | -                    | -     | - | - |
| 2021 Background Traffic                                   |                      |                      |                      |                      |       |   |   |
| Probability of Blocked Lane                               | P <sub>b</sub>       | 59%                  | 65%                  | -                    | -     | - | - |
| Probability of Delayed Crossing                           | P <sub>d</sub>       | 82%                  | 88%                  | -                    | -     | - | - |
| Average Gap Delay                                         | d <sub>g</sub>       | 27.63                | 62.92                | -                    | -     | - | - |
| Non-zero Delay                                            | d <sub>n</sub>       | 64.29                | 98.34                | -                    | -     | - | - |
| 2029 Background Traffic                                   |                      |                      |                      |                      |       |   |   |
| Probability of Blocked Lane                               | P <sub>b</sub>       | 69%                  | 75%                  | -                    | -     | - | - |
| Probability of Delayed Crossing                           | P <sub>d</sub>       | 90%                  | 94%                  | -                    | -     | - | - |
| Average Gap Delay                                         | d <sub>g</sub>       | 64.73                | 116.89               | -                    | -     | - | - |
| Non-zero Delay                                            | d <sub>n</sub>       | 93.81                | 158.85               | -                    | -     | - | - |
| 2029 Background Traffic with Supersaturated (A&1 & 3)     |                      |                      |                      |                      |       |   |   |
| Probability of Blocked Lane                               | P <sub>b</sub>       | 89%                  | 80%                  | -                    | -     | - | - |
| Probability of Delayed Crossing                           | P <sub>d</sub>       | 89%                  | 90%                  | -                    | -     | - | - |
| Average Gap Delay                                         | d <sub>g</sub>       | 72.79                | 76.83                | -                    | -     | - | - |
| Non-zero Delay                                            | dgd                  | 72.68                | 114.39               | -                    | -     | - | - |
| 2034 Background Traffic                                   |                      |                      |                      |                      |       |   |   |
| Probability of Blocked Lane                               | P <sub>b</sub>       | 75%                  | 81%                  | -                    | -     | - | - |
| Probability of Delayed Crossing                           | P <sub>d</sub>       | 94%                  | 94%                  | -                    | -     | - | - |
| Average Gap Delay                                         | d <sub>g</sub>       | 94.78                | 181.53               | -                    | -     | - | - |
| Non-zero Delay                                            | dgd                  | 126.37               | 224.11               | -                    | -     | - | - |
| 2034 Background Traffic with Supersaturated (A&1 & 3)     |                      |                      |                      |                      |       |   |   |
| Probability of Blocked Lane                               | P <sub>b</sub>       | 75%                  | 81%                  | -                    | -     | - | - |
| Probability of Delayed Crossing                           | P <sub>d</sub>       | 94%                  | 94%                  | -                    | -     | - | - |
| Average Gap Delay                                         | d <sub>g</sub>       | 94.78                | 181.53               | -                    | -     | - | - |
| Non-zero Delay                                            | dgd                  | 136.37               | 244.11               | -                    | -     | - | - |

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| LOS | Control Delay (secs/ped) | Comments                                                                 |                                                      |
|-----|--------------------------|--------------------------------------------------------------------------|------------------------------------------------------|
| A   | 5                        | Usually no conflicting traffic                                           | From HCM 6<br>Control delay is in seconds/pedestrian |
| B   | 10                       | Occasionally some delay due to conflicting traffic                       |                                                      |
| C   | 20                       | Delay noticeable to pedestrians, but not inconveniencing                 |                                                      |
| D   | 30                       | Delay noticeable and irritating, increased likelihood of risk taking     |                                                      |
| E   | 45                       | Delay approaches tolerance level, risk-taking behavior likely            |                                                      |
| F   | > 45                     | Delay exceeds tolerance level, high likelihood of pedestrian risk taking |                                                      |

|                                                     |  | Results |       |       |   |
|-----------------------------------------------------|--|---------|-------|-------|---|
|                                                     |  | Delay   | LOS   | C     | D |
| 2029 Existing Traffic                               |  | Delay   | 14.4  | 22.2  | - |
|                                                     |  | LOS     | D     | D     | - |
| 2027 Background Traffic                             |  | Delay   | 20.4  | 32.4  | - |
|                                                     |  | LOS     | D     | E     | - |
| 2027 Buildout Total                                 |  | Delay   | 20.4  | 32.4  | - |
|                                                     |  | LOS     | D     | E     | - |
| 2032 Buildout Total                                 |  | Delay   | 26.6  | 43.2  | - |
|                                                     |  | LOS     | D     | E     | - |
| 2034 Buildout Total - Phase 1 A1 2                  |  | Delay   | 48.9  | 86.9  | - |
|                                                     |  | LOS     | F     | F     | - |
| 2034 Buildout Total - Phase 1 A1 3                  |  | Delay   | 43.9  | 86.9  | - |
|                                                     |  | LOS     | F     | F     | - |
| 2034 Buildout Total - Phase 1 A1 4                  |  | Delay   | 43.9  | 86.9  | - |
|                                                     |  | LOS     | F     | F     | - |
| 2031 Buildout Total - Phase 1 A1 1                  |  | Delay   | 45.9  | 87.8  | - |
|                                                     |  | LOS     | E     | F     | - |
| 2029 Buildout Total - Phase 1 A1 2                  |  | Delay   | 40.0  | 87.8  | - |
|                                                     |  | LOS     | E     | F     | - |
| 2024 Buildout Total - Phase 1 A1 3                  |  | Delay   | 40.0  | 87.8  | - |
|                                                     |  | LOS     | E     | F     | - |
| 2024 Buildout Total - Phase 1 A1 4                  |  | Delay   | 40.0  | 87.8  | - |
|                                                     |  | LOS     | E     | F     | - |
| 2029 Buildout Total - Phase 1 A1 1                  |  | Delay   | 72.1  | 132.3 | - |
|                                                     |  | LOS     | F     | F     | - |
| 2029 Buildout Total - Phase 1 A1 2                  |  | Delay   | 72.1  | 132.3 | - |
|                                                     |  | LOS     | F     | F     | - |
| 2029 Buildout Total - Phase 1 A1 3                  |  | Delay   | 72.1  | 132.3 | - |
|                                                     |  | LOS     | F     | F     | - |
| 2029 Buildout Total - Phase 1 A1 4                  |  | Delay   | 72.1  | 132.3 | - |
|                                                     |  | LOS     | F     | F     | - |
| 2034 Buildout Total - Phase 1 A1 1                  |  | Delay   | 105.1 | 204.8 | - |
|                                                     |  | LOS     | F     | F     | - |
| 2034 Buildout Total - Phase 1 A1 2                  |  | Delay   | 105.1 | 204.8 | - |
|                                                     |  | LOS     | F     | F     | - |
| 2034 Buildout Total - Phase 1 A1 3                  |  | Delay   | 105.1 | 204.8 | - |
|                                                     |  | LOS     | F     | F     | - |
| 2034 Buildout Total - Phase 1 A1 4                  |  | Delay   | 105.1 | 204.8 | - |
|                                                     |  | LOS     | F     | F     | - |
| 2024 Background Traffic                             |  | Delay   | 37.9  | 62.9  | - |
|                                                     |  | LOS     | E     | F     | - |
| 2029 Background Traffic                             |  | Delay   | 64.7  | 116.9 | - |
|                                                     |  | LOS     | F     | F     | - |
| 2034 Background Traffic with Superstreet (A1 1 & 2) |  | Delay   | 48.8  | 78.9  | - |
|                                                     |  | LOS     | F     | F     | - |
| 2034 Background Traffic                             |  | Delay   | 94.8  | 181.9 | - |
|                                                     |  | LOS     | F     | F     | - |
| 2034 Background Traffic with Superstreet (A1 3 & 4) |  | Delay   | 94.8  | 181.9 | - |
|                                                     |  | LOS     | F     | F     | - |

| LOS | Control Delay (sec/pd) | Comments                                                                 |                                                      |
|-----|------------------------|--------------------------------------------------------------------------|------------------------------------------------------|
| A   | 5                      | Usually no conflicting traffic                                           | From HCM 6<br>Control delay is in seconds/pedestrian |
| B   | 10                     | Occasionally some delay due to conflicting traffic                       |                                                      |
| C   | 20                     | Delay noticeable to pedestrians, but not inconveniencing                 |                                                      |
| D   | 30                     | Delay noticeable and irritating, increased likelihood of risk taking     |                                                      |
| E   | 45                     | Delay approaches tolerance level, risk-taking behavior likely            |                                                      |
| F   | > 45                   | Delay exceeds tolerance level, high likelihood of pedestrian risk taking |                                                      |

|                                                      |  | Results |       |       |   |
|------------------------------------------------------|--|---------|-------|-------|---|
|                                                      |  | Delay   | 11.2  | 17.1  | - |
|                                                      |  | LOS     | C     | C     | - |
| 2020 Existing Traffic                                |  | Delay   | 15.9  | 24.8  | - |
|                                                      |  | LOS     | C     | D     | - |
| 2027 Background Traffic                              |  | Delay   | 15.9  | 24.8  | - |
|                                                      |  | LOS     | C     | D     | - |
| 2027 Buildout Total                                  |  | Delay   | 15.9  | 24.8  | - |
|                                                      |  | LOS     | C     | D     | - |
| 2032 Buildout Total                                  |  | Delay   | 20.3  | 32.1  | - |
|                                                      |  | LOS     | D     | E     | - |
| 2034 Buildout Total - Phase 1 Air 2                  |  | Delay   | 51.9  | 90.9  | - |
|                                                      |  | LOS     | F     | F     | - |
| 2034 Buildout Total - Phase 1 Air 3                  |  | Delay   | 51.9  | 90.9  | - |
|                                                      |  | LOS     | F     | F     | - |
| 2034 Buildout Total - Phase 1 Air 4                  |  | Delay   | 51.9  | 90.9  | - |
|                                                      |  | LOS     | F     | F     | - |
| 2034 Buildout Total - Phase 1 Air 1                  |  | Delay   | 41.0  | 69.7  | - |
|                                                      |  | LOS     | E     | F     | - |
| 2021 Buildout Total - Phase 1 Air 2                  |  | Delay   | 40.8  | 69.2  | - |
|                                                      |  | LOS     | E     | F     | - |
| 2021 Buildout Total - Phase 1 Air 3                  |  | Delay   | 40.8  | 69.2  | - |
|                                                      |  | LOS     | E     | F     | - |
| 2021 Buildout Total - Phase 1 Air 4                  |  | Delay   | 40.8  | 69.2  | - |
|                                                      |  | LOS     | E     | F     | - |
| 2029 Buildout Total - Phase 3 Air 1                  |  | Delay   | 75.6  | 139.8 | - |
|                                                      |  | LOS     | F     | F     | - |
| 2029 Buildout Total - Phase 3 Air 2                  |  | Delay   | 75.6  | 139.8 | - |
|                                                      |  | LOS     | F     | F     | - |
| 2029 Buildout Total - Phase 3 Air 3                  |  | Delay   | 75.6  | 139.8 | - |
|                                                      |  | LOS     | F     | F     | - |
| 2029 Buildout Total - Phase 3 Air 4                  |  | Delay   | 75.6  | 139.8 | - |
|                                                      |  | LOS     | F     | F     | - |
| 2034 Buildout Total - Phase 3 Air 1                  |  | Delay   | 111.8 | 220.1 | - |
|                                                      |  | LOS     | F     | F     | - |
| 2034 Buildout Total - Phase 3 Air 2                  |  | Delay   | 111.8 | 220.1 | - |
|                                                      |  | LOS     | F     | F     | - |
| 2034 Buildout Total - Phase 3 Air 4                  |  | Delay   | 111.8 | 220.1 | - |
|                                                      |  | LOS     | F     | F     | - |
| 2034 Buildout Total - Phase 3 Air 3                  |  | Delay   | 111.8 | 220.1 | - |
|                                                      |  | LOS     | F     | F     | - |
| 2021 Background Traffic                              |  | Delay   | 38.6  | 65.2  | - |
|                                                      |  | LOS     | E     | F     | - |
| 2029 Background Traffic                              |  | Delay   | 65.8  | 119.1 | - |
|                                                      |  | LOS     | F     | F     | - |
| 2029 Background Traffic with Superstreet (Air 1 & 2) |  | Delay   | 65.8  | 119.1 | - |
|                                                      |  | LOS     | F     | F     | - |
| 2034 Background Traffic                              |  | Delay   | 97.8  | 188.2 | - |
|                                                      |  | LOS     | F     | F     | - |
| 2034 Background Traffic with Superstreet (Air 1 & 2) |  | Delay   | 97.8  | 188.2 | - |
|                                                      |  | LOS     | F     | F     | - |

| Oakspring Rd and Sievers Mill Rd                    |                      |                      |                      |                      |       |
|-----------------------------------------------------|----------------------|----------------------|----------------------|----------------------|-------|
| AM PEAK HOUR                                        |                      |                      |                      |                      |       |
|                                                     | Crossing NB Approach | Crossing SB Approach | Crossing EB Approach | Crossing WB Approach |       |
| Major Street (Front Flow)                           |                      |                      |                      |                      |       |
| Crosswalk Length (ft)                               | L                    | 44                   | 0                    | 25                   | 25    |
| Walking Speed (ft/sec)                              | S <sub>w</sub>       | 3.5                  | 3.5                  | 3.5                  | 3.5   |
| Start Up Time                                       | t <sub>u</sub>       | 3                    | 3                    | 3                    | 3     |
| Critical Headway                                    | t <sub>h</sub>       | 15.97                | 9.00                 | 10.14                | 10.14 |
| 1 Stage Crossing? (Median > Y or N)                 | N                    | N                    | N                    | N                    | N     |
| Yielding Vehicles? (Supergate < Y or N)             | N                    | N                    | N                    | N                    | N     |
| 2020 Existing Traffic                               |                      |                      |                      |                      |       |
| Probability of Blocked Lane                         | P <sub>b</sub>       | -                    | -                    | 62%                  | 62%   |
| Probability of Delayed Crossing                     | P <sub>d</sub>       | -                    | -                    | 86%                  | 86%   |
| Average Gap Delay                                   | d <sub>g</sub>       | -                    | -                    | 21.38                | 21.38 |
| Non-zero Delay                                      | d <sub>np</sub>      | -                    | -                    | 24.99                | 24.99 |
| 2027 Background Traffic                             |                      |                      |                      |                      |       |
| Probability of Blocked Lane                         | P <sub>b</sub>       | -                    | -                    | 73%                  | 73%   |
| Probability of Delayed Crossing                     | P <sub>d</sub>       | -                    | -                    | 93%                  | 93%   |
| Average Gap Delay                                   | d <sub>g</sub>       | -                    | -                    | 38.12                | 38.12 |
| Non-zero Delay                                      | d <sub>np</sub>      | -                    | -                    | 41.12                | 41.12 |
| 2027 Buildout Total                                 |                      |                      |                      |                      |       |
| Probability of Blocked Lane                         | P <sub>b</sub>       | -                    | -                    | 73%                  | 73%   |
| Probability of Delayed Crossing                     | P <sub>d</sub>       | -                    | -                    | 93%                  | 93%   |
| Average Gap Delay                                   | d <sub>g</sub>       | -                    | -                    | 38.12                | 38.12 |
| Non-zero Delay                                      | d <sub>np</sub>      | -                    | -                    | 41.12                | 41.12 |
| 2032 Buildout Total                                 |                      |                      |                      |                      |       |
| Probability of Blocked Lane                         | P <sub>b</sub>       | -                    | -                    | 76%                  | 76%   |
| Probability of Delayed Crossing                     | P <sub>d</sub>       | -                    | -                    | 95%                  | 95%   |
| Average Gap Delay                                   | d <sub>g</sub>       | -                    | -                    | 57.09                | 57.09 |
| Non-zero Delay                                      | d <sub>np</sub>      | -                    | -                    | 59.99                | 59.99 |
| 2034 Buildout Total - Phase 1 AB 2                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                         | P <sub>b</sub>       | -                    | -                    | 26%                  | 26%   |
| Probability of Delayed Crossing                     | P <sub>d</sub>       | -                    | -                    | 95%                  | 95%   |
| Average Gap Delay                                   | d <sub>g</sub>       | -                    | -                    | 4.28                 | 4.28  |
| Non-zero Delay                                      | d <sub>np</sub>      | -                    | -                    | 4.50                 | 4.50  |
| 2034 Buildout Total - Phase 1 AB 3                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                         | P <sub>b</sub>       | -                    | -                    | 26%                  | 26%   |
| Probability of Delayed Crossing                     | P <sub>d</sub>       | -                    | -                    | 95%                  | 95%   |
| Average Gap Delay                                   | d <sub>g</sub>       | -                    | -                    | 4.28                 | 4.28  |
| Non-zero Delay                                      | d <sub>np</sub>      | -                    | -                    | 4.50                 | 4.50  |
| 2034 Buildout Total - Phase 1 AB 4                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                         | P <sub>b</sub>       | -                    | -                    | 26%                  | 26%   |
| Probability of Delayed Crossing                     | P <sub>d</sub>       | -                    | -                    | 95%                  | 95%   |
| Average Gap Delay                                   | d <sub>g</sub>       | -                    | -                    | 4.28                 | 4.28  |
| Non-zero Delay                                      | d <sub>np</sub>      | -                    | -                    | 4.50                 | 4.50  |
| 2021 Buildout Total - Phase 1 AB 1                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                         | P <sub>b</sub>       | -                    | -                    | 26%                  | 26%   |
| Probability of Delayed Crossing                     | P <sub>d</sub>       | -                    | -                    | 45%                  | 45%   |
| Average Gap Delay                                   | d <sub>g</sub>       | -                    | -                    | 3.80                 | 3.80  |
| Non-zero Delay                                      | d <sub>np</sub>      | -                    | -                    | 8.40                 | 8.40  |
| 2021 Buildout Total - Phase 1 AB 2                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                         | P <sub>b</sub>       | -                    | -                    | 26%                  | 26%   |
| Probability of Delayed Crossing                     | P <sub>d</sub>       | -                    | -                    | 45%                  | 45%   |
| Average Gap Delay                                   | d <sub>g</sub>       | -                    | -                    | 3.80                 | 3.80  |
| Non-zero Delay                                      | d <sub>np</sub>      | -                    | -                    | 8.40                 | 8.40  |
| 2021 Buildout Total - Phase 1 AB 3                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                         | P <sub>b</sub>       | -                    | -                    | 26%                  | 26%   |
| Probability of Delayed Crossing                     | P <sub>d</sub>       | -                    | -                    | 45%                  | 45%   |
| Average Gap Delay                                   | d <sub>g</sub>       | -                    | -                    | 3.80                 | 3.80  |
| Non-zero Delay                                      | d <sub>np</sub>      | -                    | -                    | 8.40                 | 8.40  |
| 2021 Buildout Total - Phase 1 AB 4                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                         | P <sub>b</sub>       | -                    | -                    | 26%                  | 26%   |
| Probability of Delayed Crossing                     | P <sub>d</sub>       | -                    | -                    | 45%                  | 45%   |
| Average Gap Delay                                   | d <sub>g</sub>       | -                    | -                    | 3.80                 | 3.80  |
| Non-zero Delay                                      | d <sub>np</sub>      | -                    | -                    | 8.40                 | 8.40  |
| 2029 Buildout Total - Phase 3 AB 1                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                         | P <sub>b</sub>       | -                    | -                    | 33%                  | 33%   |
| Probability of Delayed Crossing                     | P <sub>d</sub>       | -                    | -                    | 45%                  | 45%   |
| Average Gap Delay                                   | d <sub>g</sub>       | -                    | -                    | 5.37                 | 5.37  |
| Non-zero Delay                                      | d <sub>np</sub>      | -                    | -                    | 11.87                | 11.87 |
| 2029 Buildout Total - Phase 3 AB 2                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                         | P <sub>b</sub>       | -                    | -                    | 33%                  | 33%   |
| Probability of Delayed Crossing                     | P <sub>d</sub>       | -                    | -                    | 95%                  | 95%   |
| Average Gap Delay                                   | d <sub>g</sub>       | -                    | -                    | 5.37                 | 5.37  |
| Non-zero Delay                                      | d <sub>np</sub>      | -                    | -                    | 5.64                 | 5.64  |
| 2029 Buildout Total - Phase 3 AB 3                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                         | P <sub>b</sub>       | -                    | -                    | 33%                  | 33%   |
| Probability of Delayed Crossing                     | P <sub>d</sub>       | -                    | -                    | 95%                  | 95%   |
| Average Gap Delay                                   | d <sub>g</sub>       | -                    | -                    | 5.37                 | 5.37  |
| Non-zero Delay                                      | d <sub>np</sub>      | -                    | -                    | 5.64                 | 5.64  |
| 2029 Buildout Total - Phase 3 AB 4                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                         | P <sub>b</sub>       | -                    | -                    | 23%                  | 23%   |
| Probability of Delayed Crossing                     | P <sub>d</sub>       | -                    | -                    | 95%                  | 95%   |
| Average Gap Delay                                   | d <sub>g</sub>       | -                    | -                    | 5.37                 | 5.37  |
| Non-zero Delay                                      | d <sub>np</sub>      | -                    | -                    | 5.64                 | 5.64  |
| 2034 Buildout Total - Phase 3 AB 1                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                         | P <sub>b</sub>       | -                    | -                    | 38%                  | 38%   |
| Probability of Delayed Crossing                     | P <sub>d</sub>       | -                    | -                    | 62%                  | 62%   |
| Average Gap Delay                                   | d <sub>g</sub>       | -                    | -                    | 6.73                 | 6.73  |
| Non-zero Delay                                      | d <sub>np</sub>      | -                    | -                    | 10.93                | 10.93 |
| 2034 Buildout Total - Phase 3 AB 2                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                         | P <sub>b</sub>       | -                    | -                    | 38%                  | 38%   |
| Probability of Delayed Crossing                     | P <sub>d</sub>       | -                    | -                    | 62%                  | 62%   |
| Average Gap Delay                                   | d <sub>g</sub>       | -                    | -                    | 6.73                 | 6.73  |
| Non-zero Delay                                      | d <sub>np</sub>      | -                    | -                    | 10.93                | 10.93 |
| 2034 Buildout Total - Phase 3 AB 3                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                         | P <sub>b</sub>       | -                    | -                    | 38%                  | 38%   |
| Probability of Delayed Crossing                     | P <sub>d</sub>       | -                    | -                    | 62%                  | 62%   |
| Average Gap Delay                                   | d <sub>g</sub>       | -                    | -                    | 6.73                 | 6.73  |
| Non-zero Delay                                      | d <sub>np</sub>      | -                    | -                    | 10.93                | 10.93 |
| 2034 Buildout Total - Phase 3 AB 4                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                         | P <sub>b</sub>       | -                    | -                    | 38%                  | 38%   |
| Probability of Delayed Crossing                     | P <sub>d</sub>       | -                    | -                    | 62%                  | 62%   |
| Average Gap Delay                                   | d <sub>g</sub>       | -                    | -                    | 6.73                 | 6.73  |
| Non-zero Delay                                      | d <sub>np</sub>      | -                    | -                    | 17.71                | 17.71 |
| 2021 Background Traffic                             |                      |                      |                      |                      |       |
| Probability of Blocked Lane                         | P <sub>b</sub>       | -                    | -                    | 26%                  | 26%   |
| Probability of Delayed Crossing                     | P <sub>d</sub>       | -                    | -                    | 45%                  | 45%   |
| Average Gap Delay                                   | d <sub>g</sub>       | -                    | -                    | 3.80                 | 3.80  |
| Non-zero Delay                                      | d <sub>np</sub>      | -                    | -                    | 14.62                | 14.62 |
| 2029 Background Traffic                             |                      |                      |                      |                      |       |
| Probability of Blocked Lane                         | P <sub>b</sub>       | -                    | -                    | 33%                  | 33%   |
| Probability of Delayed Crossing                     | P <sub>d</sub>       | -                    | -                    | 95%                  | 95%   |
| Average Gap Delay                                   | d <sub>g</sub>       | -                    | -                    | 5.37                 | 5.37  |
| Non-zero Delay                                      | d <sub>np</sub>      | -                    | -                    | 16.27                | 16.27 |
| 2029 Background Traffic with Superstreet (AB 1 & 3) |                      |                      |                      |                      |       |
| Probability of Blocked Lane                         | P <sub>b</sub>       | -                    | -                    | 28%                  | 28%   |
| Probability of Delayed Crossing                     | P <sub>d</sub>       | -                    | -                    | 48%                  | 48%   |
| Average Gap Delay                                   | d <sub>g</sub>       | -                    | -                    | 4.28                 | 4.28  |
| Non-zero Delay                                      | d <sub>np</sub>      | -                    | -                    | 15.29                | 15.29 |
| 2034 Background Traffic                             |                      |                      |                      |                      |       |
| Probability of Blocked Lane                         | P <sub>b</sub>       | -                    | -                    | 38%                  | 38%   |
| Probability of Delayed Crossing                     | P <sub>d</sub>       | -                    | -                    | 62%                  | 62%   |
| Average Gap Delay                                   | d <sub>g</sub>       | -                    | -                    | 6.73                 | 6.73  |
| Non-zero Delay                                      | d <sub>np</sub>      | -                    | -                    | 17.71                | 17.71 |
| 2034 Background Traffic with Superstreet (AB 1 & 3) |                      |                      |                      |                      |       |
| Probability of Blocked Lane                         | P <sub>b</sub>       | -                    | -                    | 38%                  | 38%   |
| Probability of Delayed Crossing                     | P <sub>d</sub>       | -                    | -                    | 62%                  | 62%   |
| Average Gap Delay                                   | d <sub>g</sub>       | -                    | -                    | 6.73                 | 6.73  |
| Non-zero Delay                                      | d <sub>np</sub>      | -                    | -                    | 17.71                | 17.71 |

|                                         |         | 2020 Existing Traffic |    |    | 2027 Background Traffic |      |      | 2027 Buildout Total |    |      | 2032 Buildout Total |    |    | 2034 Buildout Total - Phase 1 AB 2 |       |    | 2034 Buildout Total - Phase 1 AB 3 |      |      | 2034 Buildout Total - Phase 1 AB 4 |    |      | 2021 Background Traffic |    |    |
|-----------------------------------------|---------|-----------------------|----|----|-------------------------|------|------|---------------------|----|------|---------------------|----|----|------------------------------------|-------|----|------------------------------------|------|------|------------------------------------|----|------|-------------------------|----|----|
| Volume                                  | B       | NB                    | SB | EB | WB                      | NB   | SB   | EB                  | WB | NB   | SB                  | EB | WB | NB                                 | SB    | EB | WB                                 | NB   | SB   | EB                                 | WB | NB   | SB                      | EB | WB |
|                                         | 1 Stage | -                     | -  | -  | -                       | 695  | 695  | -                   | -  | 919  | 919                 | -  | -  | 1,095                              | 1,095 | -  | -                                  | 237  | 237  | -                                  | -  | 235  | 235                     | -  | -  |
|                                         | 2 Stage | -                     | -  | -  | -                       | -    | -    | -                   | -  | -    | -                   | -  | -  | -                                  | -     | -  | -                                  | -    | -    | -                                  | -  | -    | -                       | -  | -  |
| Conflicting w/ flow rate (vehicles) (v) | 1 Stage | -                     | -  | -  | -                       | 0.19 | 0.19 | -                   | -  | 0.26 | 0.26                | -  | -  | 0.30                               | 0.30  | -  | -                                  | 0.07 | 0.07 | -                                  | -  | 0.07 | 0.07                    | -  | -  |
| 2 Stage                                 | -       | -                     | -  | -  | -                       | -    | -    | -                   | -  | -    | -                   | -  | -  | -                                  | -     | -  | -                                  | -    | -    | -                                  | -  | -    | -                       | -  | -  |
| No. of lanes crossed                    |         | 2                     | 2  | 2  | 2                       | 2    | 2    | 2                   | 2  | 2    | 2                   | 2  | 2  | 2                                  | 2     | 2  | 2                                  | 2    | 2    | 2                                  | 2  | 2    | 2                       | 2  | 2  |

|                                         |         | 2021 Buildout Total - Phase 1 AB 1 |    |    | 2021 Buildout Total - Phase 1 AB 2 |      |      | 2021 Buildout Total - Phase 1 AB 3 |    |      | 2021 Buildout Total - Phase 1 AB 4 |    |    | 2029 Buildout Total - Phase 1 AB 1 |      |    | 2029 Buildout Total - Phase 1 AB 2 |      |      | 2029 Buildout Total - Phase 1 AB 3 |    |      | 2029 Buildout Total - Phase 1 AB 4 |    |    |
|-----------------------------------------|---------|------------------------------------|----|----|------------------------------------|------|------|------------------------------------|----|------|------------------------------------|----|----|------------------------------------|------|----|------------------------------------|------|------|------------------------------------|----|------|------------------------------------|----|----|
| Volume                                  | B       | NB                                 | SB | EB | WB                                 | NB   | SB   | EB                                 | WB | NB   | SB                                 | EB | WB | NB                                 | SB   | EB | WB                                 | NB   | SB   | EB                                 | WB | NB   | SB                                 | EB | WB |
|                                         | 1 Stage | -                                  | -  | -  | -                                  | 215  | 215  | -                                  | -  | 215  | 215                                | -  | -  | 215                                | 215  | -  | -                                  | 263  | 263  | -                                  | -  | 263  | 263                                | -  | -  |
|                                         | 2 Stage | -                                  | -  | -  | -                                  | -    | -    | -                                  | -  | -    | -                                  | -  | -  | -                                  | -    | -  | -                                  | -    | -    | -                                  | -  | -    | -                                  | -  | -  |
| Conflicting w/ flow rate (vehicles) (v) | 1 Stage | -                                  | -  | -  | -                                  | 0.06 | 0.06 | -                                  | -  | 0.06 | 0.06                               | -  | -  | 0.06                               | 0.06 | -  | -                                  | 0.08 | 0.08 | -                                  | -  | 0.08 | 0.08                               | -  | -  |
| 2 Stage                                 | -       | -                                  | -  | -  | -                                  | -    | -    | -                                  | -  | -    | -                                  | -  | -  | -                                  | -    | -  | -                                  | -    | -    | -                                  | -  | -    | -                                  | -  | -  |
| No. of lanes crossed                    |         | 2                                  | 2  | 2  | 2                                  | 2    | 2    | 2                                  | 2  | 2    | 2                                  | 2  | 2  | 2                                  | 2    | 2  | 2                                  | 2    | 2    | 2                                  | 2  | 2    | 2                                  | 2  | 2  |

|                                         |         | 2034 Buildout Total - Phase 1 AB 1 |    |    | 2034 Buildout Total - Phase 1 AB 2 |      |      | 2034 Buildout Total - Phase 1 AB 3 |    |      | 2034 Buildout Total - Phase 1 AB 4 |    |    | 2029 Background Traffic |      |    | 2029 Background Traffic with Superstreet (AB 1 & 3) |      |      | 2034 Background Traffic |    |      | 2034 Background Traffic with Superstreet (AB 1 & 3) |    |    |
|-----------------------------------------|---------|------------------------------------|----|----|------------------------------------|------|------|------------------------------------|----|------|------------------------------------|----|----|-------------------------|------|----|-----------------------------------------------------|------|------|-------------------------|----|------|-----------------------------------------------------|----|----|
| Volume                                  | B       | NB                                 | SB | EB | WB                                 | NB   | SB   | EB                                 | WB | NB   | SB                                 | EB | WB | NB                      | SB   | EB | WB                                                  | NB   | SB   | EB                      | WB | NB   | SB                                                  | EB | WB |
|                                         | 1 Stage | -                                  | -  | -  | -                                  | 335  | 335  | -                                  | -  | 335  | 335                                | -  | -  | 335                     | 335  | -  | -                                                   | 263  | 263  | -                       | -  | 335  | 335                                                 | -  | -  |
|                                         | 2 Stage | -                                  | -  | -  | -                                  | -    | -    | -                                  | -  | -    | -                                  | -  | -  | -                       | -    | -  | -                                                   | -    | -    | -                       | -  | -    | -                                                   | -  | -  |
| Conflicting w/ flow rate (vehicles) (v) | 1 Stage | -                                  | -  | -  | -                                  | 0.09 | 0.09 | -                                  | -  | 0.09 | 0.09                               | -  | -  | 0.09                    | 0.09 | -  | -                                                   | 0.08 | 0.08 | -                       | -  | 0.09 | 0.09                                                | -  | -  |
| 2 Stage                                 | -       | -                                  | -  | -  | -                                  | -    | -    | -                                  | -  | -    | -                                  | -  | -  | -                       | -    | -  | -                                                   | -    | -    | -                       | -  | -    | -                                                   | -  | -  |
| No. of lanes crossed                    |         | 2                                  | 2  | 2  | 2                                  | 2    | 2    | 2                                  | 2  | 2    | 2                                  | 2  | 2  | 2                       | 2    | 2  | 2                                                   | 2    | 2    | 2                       | 2  | 2    | 2                                                   | 2  | 2  |

| LOS | Control Delay (sec/ped) | Comments                                                                 | From HCM 6 |
|-----|-------------------------|--------------------------------------------------------------------------|------------|
| A   | 5                       | Usually no conflicting traffic                                           |            |
| B   | 10                      | Occasionally some delay due to conflicting traffic                       |            |
| C   | 20                      | Delay noticeable to pedestrians, but not inconveniencing                 |            |
| D   | 30                      | Delay noticeable and irritating, increased likelihood of risk taking     |            |
| E   | 40                      | Delay approaches tolerance level, risk taking behavior likely            |            |
| F   | > 45                    | Delay exceeds tolerance level, high likelihood of pedestrian risk taking |            |

| Results                            |       |               |
|------------------------------------|-------|---------------|
| 2020 Existing Traffic              | Delay | - - 21.4 21.4 |
|                                    | LOS   | - - D D       |
| 2027 Background Traffic            | Delay | - - 38.1 38.1 |
|                                    | LOS   | - - E E       |
| 2027 Buildout Total                | Delay | - - 38.1 38.1 |
|                                    | LOS   | - - E E       |
| 2032 Buildout Total                | Delay | - - 57.1 57.1 |
|                                    | LOS   | - - F F       |
| 2034 Buildout Total - Phase 1 AB 2 | Delay | - - 4.3 4.3   |
|                                    | LOS   | - - A A       |
| 2034 Buildout Total - Phase 1 AB 3 | Delay | - - 4.3 4.3   |
|                                    | LOS   | - - A A       |
| 2034 Buildout Total - Phase 1 AB 4 | Delay | - - 4.3 4.3   |
|                                    | LOS   | - - A A       |
| 2021 Buildout Total - Phase 1 AB 1 | Delay | - - 3.8 3.8   |
|                                    | LOS   | - - A A       |
| 2021 Buildout Total - Phase 1 AB 2 | Delay | - - 3.8 3.8   |
|                                    | LOS   | - - A A       |
| 2021 Buildout Total - Phase 1 AB 3 | Delay | - - 3.8 3.8   |
|                                    | LOS   | - - A A       |
| 2021 Buildout Total - Phase 1 AB 4 | Delay | - - 3.8 3.8   |
|                                    | LOS   | - - A A       |
| 2029 Buildout Total - Phase 3 AB 1 | Delay | - - 5.4 5.4   |
|                                    | LOS   | - - B B       |
| 2029 Buildout Total - Phase 3 AB 2 | Delay | - - 5.4 5.4   |
|                                    | LOS   | - - B B       |
| 2029 Buildout Total - Phase 3 AB 3 | Delay | - - 5.4 5.    |

| Oakspring Rd and Stevens Mill Rd                     |                      |                      |                      |                      |       |
|------------------------------------------------------|----------------------|----------------------|----------------------|----------------------|-------|
| PM PEAK HOUR                                         |                      |                      |                      |                      |       |
|                                                      | Crossing NB Approach | Crossing SB Approach | Crossing EB Approach | Crossing WB Approach |       |
| Major Street (Free Flow)                             | N                    | N                    | Y                    | Y                    |       |
| Crosswalk Length (ft)                                | L                    | 4.4                  | 26                   | 26                   |       |
| Walking Speed (ft/sec)                               | S <sub>w</sub>       | 3.5                  | 3.5                  | 3.5                  | 3.5   |
| Start Up Time                                        | t <sub>s</sub>       | 3                    | 3                    | 3                    | 3     |
| Critical Headway                                     | t <sub>c</sub>       | 15.57                | 3.00                 | 10.14                | 10.14 |
| 2 Stage Crossing? (Median > Y or N)                  |                      |                      |                      |                      |       |
| Yielding Vehicles? (Signage > Y or N)                | N                    | N                    | N                    | N                    | N     |
| 2020 Existing Traffic                                |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | -                    | 60%                  | 60%   |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | -                    | 84%                  | 84%   |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | -                    | 16.63                | 16.63 |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | -                    | 22.18                | 22.18 |
| 2027 Background Traffic                              |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | -                    | 70%                  | 70%   |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | -                    | 91%                  | 91%   |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | -                    | 33.06                | 33.06 |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | -                    | 36.33                | 36.33 |
| 2027 Buildout Total                                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | -                    | 70%                  | 70%   |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | -                    | 91%                  | 91%   |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | -                    | 33.06                | 33.06 |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | -                    | 36.33                | 36.33 |
| 2032 Buildout Total                                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | -                    | 76%                  | 76%   |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | -                    | 94%                  | 94%   |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | -                    | 48.23                | 48.23 |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | -                    | 51.18                | 51.18 |
| 2024 Buildout Total - Phase 1 Alt 2                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | -                    | 27%                  | 27%   |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | -                    | 94%                  | 94%   |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | -                    | 3.91                 | 3.91  |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | -                    | 4.15                 | 4.15  |
| 2024 Buildout Total - Phase 1 Alt 3                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | -                    | 27%                  | 27%   |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | -                    | 94%                  | 94%   |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | -                    | 3.91                 | 3.91  |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | -                    | 4.15                 | 4.15  |
| 2024 Buildout Total - Phase 1 Alt 4                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | -                    | 27%                  | 27%   |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | -                    | 94%                  | 94%   |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | -                    | 3.91                 | 3.91  |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | -                    | 4.15                 | 4.15  |
| 2021 Buildout Total - Phase 1 Alt 1                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | -                    | 24%                  | 24%   |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | -                    | 42%                  | 42%   |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | -                    | 3.44                 | 3.44  |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | -                    | 8.14                 | 8.14  |
| 2021 Buildout Total - Phase 1 Alt 2                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | -                    | 24%                  | 24%   |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | -                    | 42%                  | 42%   |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | -                    | 3.44                 | 3.44  |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | -                    | 8.14                 | 8.14  |
| 2021 Buildout Total - Phase 1 Alt 3                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | -                    | 24%                  | 24%   |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | -                    | 42%                  | 42%   |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | -                    | 3.44                 | 3.44  |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | -                    | 8.14                 | 8.14  |
| 2021 Buildout Total - Phase 1 Alt 4                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | -                    | 24%                  | 24%   |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | -                    | 42%                  | 42%   |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | -                    | 3.44                 | 3.44  |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | -                    | 8.14                 | 8.14  |
| 2029 Buildout Total - Phase 3 Alt 1                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | -                    | 31%                  | 31%   |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | -                    | 42%                  | 42%   |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | -                    | 4.84                 | 4.84  |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | -                    | 11.46                | 11.46 |
| 2029 Buildout Total - Phase 3 Alt 2                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | -                    | 31%                  | 31%   |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | -                    | 94%                  | 94%   |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | -                    | 4.84                 | 4.84  |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | -                    | 5.14                 | 5.14  |
| 2029 Buildout Total - Phase 3 Alt 3                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | -                    | 31%                  | 31%   |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | -                    | 94%                  | 94%   |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | -                    | 4.84                 | 4.84  |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | -                    | 5.14                 | 5.14  |
| 2029 Buildout Total - Phase 3 Alt 4                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | -                    | 31%                  | 31%   |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | -                    | 94%                  | 94%   |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | -                    | 4.84                 | 4.84  |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | -                    | 5.14                 | 5.14  |
| 2034 Buildout Total - Phase 3 Alt 1                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | -                    | 35%                  | 35%   |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | -                    | 58%                  | 58%   |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | -                    | 6.06                 | 6.06  |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | -                    | 10.49                | 10.49 |
| 2034 Buildout Total - Phase 3 Alt 2                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | -                    | 39%                  | 35%   |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | -                    | 58%                  | 58%   |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | -                    | 6.06                 | 6.06  |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | -                    | 10.49                | 10.49 |
| 2034 Buildout Total - Phase 3 Alt 3                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | -                    | 35%                  | 35%   |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | -                    | 58%                  | 58%   |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | -                    | 6.06                 | 6.06  |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | -                    | 10.49                | 10.49 |
| 2034 Buildout Total - Phase 3 Alt 4                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | -                    | 35%                  | 35%   |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | -                    | 58%                  | 58%   |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | -                    | 6.06                 | 6.06  |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | -                    | 17.31                | 17.31 |
| 2021 Background Traffic                              |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | -                    | 24%                  | 24%   |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | -                    | 42%                  | 42%   |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | -                    | 3.44                 | 3.44  |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | -                    | 14.33                | 14.33 |
| 2029 Background Traffic                              |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | -                    | 31%                  | 31%   |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | -                    | 52%                  | 52%   |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | -                    | 4.84                 | 4.84  |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | -                    | 15.61                | 15.61 |
| 2029 Background Traffic with Superstreet (Alt 1 & 3) |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | -                    | 31%                  | 31%   |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | -                    | 52%                  | 52%   |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | -                    | 4.84                 | 4.84  |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | -                    | 15.61                | 15.61 |
| 2034 Background Traffic                              |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | -                    | 35%                  | 35%   |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | -                    | 58%                  | 58%   |

|                                         |         | 2020 Existing Traffic |    |      |      | 2027 Background Traffic |    |      |      | 2027 Buildout Total |    |      |      | 2032 Buildout Total |    |       |       | 2024 Buildout Total - Phase 1 Alt 2 |    |      |      | 2024 Buildout Total - Phase 1 Alt 3 |    |      |      | 2024 Buildout Total - Phase 1 Alt 4 |    |      |      | 2021 Background Traffic |    |      |      |
|-----------------------------------------|---------|-----------------------|----|------|------|-------------------------|----|------|------|---------------------|----|------|------|---------------------|----|-------|-------|-------------------------------------|----|------|------|-------------------------------------|----|------|------|-------------------------------------|----|------|------|-------------------------|----|------|------|
|                                         |         | NB                    | SB | EB   | WB   | NB                      | SB | EB   | WB   | NB                  | SB | EB   | WB   | NB                  | SB | EB    | WB    | NB                                  | SB | EB   | WB   | NB                                  | SB | EB   | WB   | NB                                  | SB | EB   | WB   | NB                      | SB | EB   | WB   |
| Volume                                  | 1 Stage | -                     | -  | 645  | 645  | -                       | -  | 862  | 862  | -                   | -  | 862  | 862  | -                   | -  | 1,015 | 1,015 | -                                   | -  | 220  | 220  | -                                   | -  | 220  | 220  | -                                   | -  | 220  | 220  | -                       | -  | 198  | 198  |
|                                         | 2 Stage | -                     | -  | -    | -    | -                       | -  | -    | -    | -                   | -  | -    | -    | -                   | -  | -     | -     | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                       | -  | -    |      |
| Conflicting veh flow rate (veh/sec) (v) | 1 Stage | -                     | -  | 0.18 | 0.18 | -                       | -  | 0.24 | 0.24 | -                   | -  | 0.24 | 0.24 | -                   | -  | 0.28  | 0.28  | -                                   | -  | 0.06 | 0.06 | -                                   | -  | 0.06 | 0.06 | -                                   | -  | 0.06 | 0.06 | -                       | -  | 0.06 | 0.06 |
|                                         | 2 Stage | -                     | -  | -    | -    | -                       | -  | -    | -    | -                   | -  | -    | -    | -                   | -  | -     | -     | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                       | -  | -    |      |
| No. of lanes crossed                    |         | 2                     | 2  | 2    | 2    | 2                       | 2  | 2    | 2    | 2                   | 2  | 2    | 2    | 2                   | 2  | 2     | 2     | 2                                   | 2  | 2    | 2    | 2                                   | 2  | 2    | 2    | 2                                   | 2  | 2    | 2    | 2                       | 2  | 2    |      |

|                                         |         | 2021 Buildout Total - Phase 1 Alt 1 |    |      |      | 2021 Buildout Total - Phase 1 Alt 2 |    |      |      | 2021 Buildout Total - Phase 1 Alt 3 |    |      |      | 2021 Buildout Total - Phase 1 Alt 4 |    |      |      | 2029 Buildout Total - Phase 3 Alt 1 |    |      |      | 2029 Buildout Total - Phase 3 Alt 2 |    |      |      | 2029 Buildout Total - Phase 3 Alt 3 |    |      |      | 2029 Buildout Total - Phase 3 Alt 4 |    |      |      |
|-----------------------------------------|---------|-------------------------------------|----|------|------|-------------------------------------|----|------|------|-------------------------------------|----|------|------|-------------------------------------|----|------|------|-------------------------------------|----|------|------|-------------------------------------|----|------|------|-------------------------------------|----|------|------|-------------------------------------|----|------|------|
|                                         |         | NB                                  | SB | EB   | WB   | NB                                  | SB | EB   | WB   | NB                                  | SB | EB   | WB   | NB                                  | SB | EB   | WB   | NB                                  | SB | EB   | WB   | NB                                  | SB | EB   | WB   | NB                                  | SB | EB   | WB   | NB                                  | SB | EB   | WB   |
| Volume                                  | 1 Stage | -                                   | -  | 196  | 196  | -                                   | -  | 196  | 196  | -                                   | -  | 196  | 196  | -                                   | -  | 196  | 196  | -                                   | -  | 261  | 261  | -                                   | -  | 261  | 261  | -                                   | -  | 261  | 261  | -                                   | -  | 261  | 261  |
|                                         | 2 Stage | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                                   | -  | -    |      |
| Conflicting veh flow rate (veh/sec) (v) | 1 Stage | -                                   | -  | 0.06 | 0.06 | -                                   | -  | 0.06 | 0.06 | -                                   | -  | 0.06 | 0.06 | -                                   | -  | 0.06 | 0.06 | -                                   | -  | 0.07 | 0.07 | -                                   | -  | 0.07 | 0.07 | -                                   | -  | 0.07 | 0.07 | -                                   | -  | 0.07 | 0.07 |
|                                         | 2 Stage | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                                   | -  | -    |      |
| No. of lanes crossed                    |         | 2                                   | 2  | 2    | 2    | 2                                   | 2  | 2    | 2    | 2                                   | 2  | 2    | 2    | 2                                   | 2  | 2    | 2    | 2                                   | 2  | 2    | 2    | 2                                   | 2  | 2    | 2    | 2                                   | 2  | 2    | 2    | 2                                   | 2  | 2    |      |

|                                         |         | 2034 Buildout Total - Phase 3 Alt 1 |    |      |      | 2034 Buildout Total - Phase 3 Alt 2 |    |      |      | 2034 Buildout Total - Phase 3 Alt 3 |    |      |      | 2034 Buildout Total - Phase 3 Alt 4 |    |      |      | 2029 Background Traffic |    |      |      | 2029 Background Traffic with Superstreet (Alt 1 & 3) |    |      |      | 2034 Background Traffic |    |      |      | 2034 Background Traffic with Superstreet (Alt 1 & 3) |  |  |  |
|-----------------------------------------|---------|-------------------------------------|----|------|------|-------------------------------------|----|------|------|-------------------------------------|----|------|------|-------------------------------------|----|------|------|-------------------------|----|------|------|------------------------------------------------------|----|------|------|-------------------------|----|------|------|------------------------------------------------------|--|--|--|
|                                         |         | NB                                  | SB | EB   | WB   | NB                                  | SB | EB   | WB   | NB                                  | SB | EB   | WB   | NB                                  | SB | EB   | WB   | NB                      | SB | EB   | WB   | NB                                                   | SB | EB   | WB   | NB                      | SB | EB   | WB   |                                                      |  |  |  |
| Volume                                  | 1 Stage | -                                   | -  | 310  | 310  | -                                   | -  | 310  | 310  | -                                   | -  | 310  | 310  | -                                   | -  | 310  | 310  | -                       | -  | 261  | 261  | -                                                    | -  | 261  | 261  | -                       | -  | 310  | 310  |                                                      |  |  |  |
|                                         | 2 Stage | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                       | -  | -    | -    | -                                                    | -  | -    | -    | -                       | -  | -    |      |                                                      |  |  |  |
| Conflicting veh flow rate (veh/sec) (v) | 1 Stage | -                                   | -  | 0.09 | 0.09 | -                                   | -  | 0.09 | 0.09 | -                                   | -  | 0.09 | 0.09 | -                                   | -  | 0.09 | 0.09 | -                       | -  | 0.07 | 0.07 | -                                                    | -  | 0.07 | 0.07 | -                       | -  | 0.09 | 0.09 |                                                      |  |  |  |
|                                         | 2 Stage | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                       | -  | -    | -    | -                                                    | -  | -    | -    | -                       | -  | -    |      |                                                      |  |  |  |
| No. of lanes crossed                    |         | 2                                   | 2  | 2    | 2    | 2                                   | 2  | 2    | 2    | 2                                   | 2  | 2    | 2    | 2                                   | 2  | 2    | 2    | 2                       | 2  | 2    | 2    | 2                                                    | 2  | 2    | 2    | 2                       | 2  | 2    |      |                                                      |  |  |  |

| LOS | Control Delay (sec/pd) | Comments                                                                 | From HCM 6 |
|-----|------------------------|--------------------------------------------------------------------------|------------|
| A   | 5                      | Usually no conflicting traffic                                           |            |
| B   | 10                     | Occasionally some delay due to conflicting traffic                       |            |
| C   | 20                     | Delay noticeable to pedestrians, but not inconveniencing                 |            |
| D   | 30                     | Delay noticeable and irritating, increased likelihood of risk taking     |            |
| E   | 45                     | Delay approaches tolerance level, risk-taking behavior likely            |            |
| F   | > 45                   | Delay exceeds tolerance level, high likelihood of pedestrian risk taking |            |

| Results               |       |   |           |
|-----------------------|-------|---|-----------|
| 2020 Existing Traffic | Delay | - | 18.6 18.6 |
|                       | LOS   | - | C C       |

|                         |       |   |     |
|-------------------------|-------|---|-----|
| 2027 Background Traffic | Delay | - | 33. |
|-------------------------|-------|---|-----|

| Oakspring Rd and Sievers Mill Rd<br>AM PEAK HOUR    |                         |                         |                         |                         |       |
|-----------------------------------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------|
|                                                     | Crossing NB<br>Approach | Crossing SB<br>Approach | Crossing EB<br>Approach | Crossing WB<br>Approach |       |
| Major Street (Front Flow)                           |                         |                         |                         |                         |       |
| Crosswalk Length (ft)                               | L                       | 55                      | 0                       | 25                      | 25    |
| Walking Speed (ft/sec)                              | S <sub>w</sub>          | 3.5                     | 3.5                     | 3.5                     | 3.5   |
| Start Up Time                                       | t <sub>s</sub>          | 3                       | 3                       | 3                       | 3     |
| Critical Headway                                    | t <sub>h</sub>          | 19.00                   | 9.00                    | 10.14                   | 10.14 |
| 1 Stage Crossing? (Median > Y or N)                 | N                       | N                       | N                       | N                       | N     |
| Yielding Vehicles? (Supplene < Y or N)              | N                       | N                       | N                       | N                       | N     |
| 2020 Existing Traffic                               |                         |                         |                         |                         |       |
| Probability of Blocked Lane                         | P <sub>b</sub>          | -                       | -                       | 62%                     | 62%   |
| Probability of Delayed Crossing                     | P <sub>d</sub>          | -                       | -                       | 86%                     | 86%   |
| Average Gap Delay                                   | d <sub>g</sub>          | -                       | -                       | 21.38                   | 21.38 |
| Non-zero Delay                                      | d <sub>np</sub>         | -                       | -                       | 24.99                   | 24.99 |
| 2027 Background Traffic                             |                         |                         |                         |                         |       |
| Probability of Blocked Lane                         | P <sub>b</sub>          | -                       | -                       | 73%                     | 73%   |
| Probability of Delayed Crossing                     | P <sub>d</sub>          | -                       | -                       | 93%                     | 93%   |
| Average Gap Delay                                   | d <sub>g</sub>          | -                       | -                       | 38.12                   | 38.12 |
| Non-zero Delay                                      | d <sub>np</sub>         | -                       | -                       | 41.12                   | 41.12 |
| 2027 Buildout Total                                 |                         |                         |                         |                         |       |
| Probability of Blocked Lane                         | P <sub>b</sub>          | -                       | -                       | 73%                     | 73%   |
| Probability of Delayed Crossing                     | P <sub>d</sub>          | -                       | -                       | 93%                     | 93%   |
| Average Gap Delay                                   | d <sub>g</sub>          | -                       | -                       | 38.12                   | 38.12 |
| Non-zero Delay                                      | d <sub>np</sub>         | -                       | -                       | 41.12                   | 41.12 |
| 2032 Buildout Total                                 |                         |                         |                         |                         |       |
| Probability of Blocked Lane                         | P <sub>b</sub>          | -                       | -                       | 76%                     | 76%   |
| Probability of Delayed Crossing                     | P <sub>d</sub>          | -                       | -                       | 95%                     | 95%   |
| Average Gap Delay                                   | d <sub>g</sub>          | -                       | -                       | 57.09                   | 57.09 |
| Non-zero Delay                                      | d <sub>np</sub>         | -                       | -                       | 59.99                   | 59.99 |
| 2034 Buildout Total - Phase 1 AB 2                  |                         |                         |                         |                         |       |
| Probability of Blocked Lane                         | P <sub>b</sub>          | -                       | -                       | 26%                     | 26%   |
| Probability of Delayed Crossing                     | P <sub>d</sub>          | -                       | -                       | 95%                     | 95%   |
| Average Gap Delay                                   | d <sub>g</sub>          | -                       | -                       | 4.28                    | 4.28  |
| Non-zero Delay                                      | d <sub>np</sub>         | -                       | -                       | 4.50                    | 4.50  |
| 2034 Buildout Total - Phase 1 AB 3                  |                         |                         |                         |                         |       |
| Probability of Blocked Lane                         | P <sub>b</sub>          | -                       | -                       | 26%                     | 26%   |
| Probability of Delayed Crossing                     | P <sub>d</sub>          | -                       | -                       | 95%                     | 95%   |
| Average Gap Delay                                   | d <sub>g</sub>          | -                       | -                       | 4.28                    | 4.28  |
| Non-zero Delay                                      | d <sub>np</sub>         | -                       | -                       | 4.50                    | 4.50  |
| 2034 Buildout Total - Phase 1 AB 4                  |                         |                         |                         |                         |       |
| Probability of Blocked Lane                         | P <sub>b</sub>          | -                       | -                       | 26%                     | 26%   |
| Probability of Delayed Crossing                     | P <sub>d</sub>          | -                       | -                       | 95%                     | 95%   |
| Average Gap Delay                                   | d <sub>g</sub>          | -                       | -                       | 4.28                    | 4.28  |
| Non-zero Delay                                      | d <sub>np</sub>         | -                       | -                       | 4.50                    | 4.50  |
| 2021 Buildout Total - Phase 1 AB 1                  |                         |                         |                         |                         |       |
| Probability of Blocked Lane                         | P <sub>b</sub>          | -                       | -                       | 26%                     | 26%   |
| Probability of Delayed Crossing                     | P <sub>d</sub>          | -                       | -                       | 45%                     | 45%   |
| Average Gap Delay                                   | d <sub>g</sub>          | -                       | -                       | 3.80                    | 3.80  |
| Non-zero Delay                                      | d <sub>np</sub>         | -                       | -                       | 8.40                    | 8.40  |
| 2021 Buildout Total - Phase 1 AB 2                  |                         |                         |                         |                         |       |
| Probability of Blocked Lane                         | P <sub>b</sub>          | -                       | -                       | 26%                     | 26%   |
| Probability of Delayed Crossing                     | P <sub>d</sub>          | -                       | -                       | 45%                     | 45%   |
| Average Gap Delay                                   | d <sub>g</sub>          | -                       | -                       | 3.80                    | 3.80  |
| Non-zero Delay                                      | d <sub>np</sub>         | -                       | -                       | 8.40                    | 8.40  |
| 2021 Buildout Total - Phase 1 AB 3                  |                         |                         |                         |                         |       |
| Probability of Blocked Lane                         | P <sub>b</sub>          | -                       | -                       | 26%                     | 26%   |
| Probability of Delayed Crossing                     | P <sub>d</sub>          | -                       | -                       | 45%                     | 45%   |
| Average Gap Delay                                   | d <sub>g</sub>          | -                       | -                       | 3.80                    | 3.80  |
| Non-zero Delay                                      | d <sub>np</sub>         | -                       | -                       | 8.40                    | 8.40  |
| 2021 Buildout Total - Phase 1 AB 4                  |                         |                         |                         |                         |       |
| Probability of Blocked Lane                         | P <sub>b</sub>          | -                       | -                       | 26%                     | 26%   |
| Probability of Delayed Crossing                     | P <sub>d</sub>          | -                       | -                       | 45%                     | 45%   |
| Average Gap Delay                                   | d <sub>g</sub>          | -                       | -                       | 3.80                    | 3.80  |
| Non-zero Delay                                      | d <sub>np</sub>         | -                       | -                       | 8.40                    | 8.40  |
| 2029 Buildout Total - Phase 3 AB 1                  |                         |                         |                         |                         |       |
| Probability of Blocked Lane                         | P <sub>b</sub>          | -                       | -                       | 33%                     | 33%   |
| Probability of Delayed Crossing                     | P <sub>d</sub>          | -                       | -                       | 45%                     | 45%   |
| Average Gap Delay                                   | d <sub>g</sub>          | -                       | -                       | 5.37                    | 5.37  |
| Non-zero Delay                                      | d <sub>np</sub>         | -                       | -                       | 11.87                   | 11.87 |
| 2029 Buildout Total - Phase 3 AB 2                  |                         |                         |                         |                         |       |
| Probability of Blocked Lane                         | P <sub>b</sub>          | -                       | -                       | 33%                     | 33%   |
| Probability of Delayed Crossing                     | P <sub>d</sub>          | -                       | -                       | 95%                     | 95%   |
| Average Gap Delay                                   | d <sub>g</sub>          | -                       | -                       | 5.37                    | 5.37  |
| Non-zero Delay                                      | d <sub>np</sub>         | -                       | -                       | 5.64                    | 5.64  |
| 2029 Buildout Total - Phase 3 AB 3                  |                         |                         |                         |                         |       |
| Probability of Blocked Lane                         | P <sub>b</sub>          | -                       | -                       | 33%                     | 33%   |
| Probability of Delayed Crossing                     | P <sub>d</sub>          | -                       | -                       | 95%                     | 95%   |
| Average Gap Delay                                   | d <sub>g</sub>          | -                       | -                       | 5.37                    | 5.37  |
| Non-zero Delay                                      | d <sub>np</sub>         | -                       | -                       | 5.64                    | 5.64  |
| 2029 Buildout Total - Phase 3 AB 4                  |                         |                         |                         |                         |       |
| Probability of Blocked Lane                         | P <sub>b</sub>          | -                       | -                       | 23%                     | 23%   |
| Probability of Delayed Crossing                     | P <sub>d</sub>          | -                       | -                       | 95%                     | 95%   |
| Average Gap Delay                                   | d <sub>g</sub>          | -                       | -                       | 5.37                    | 5.37  |
| Non-zero Delay                                      | d <sub>np</sub>         | -                       | -                       | 5.64                    | 5.64  |
| 2034 Buildout Total - Phase 3 AB 1                  |                         |                         |                         |                         |       |
| Probability of Blocked Lane                         | P <sub>b</sub>          | -                       | -                       | 38%                     | 38%   |
| Probability of Delayed Crossing                     | P <sub>d</sub>          | -                       | -                       | 62%                     | 62%   |
| Average Gap Delay                                   | d <sub>g</sub>          | -                       | -                       | 6.73                    | 6.73  |
| Non-zero Delay                                      | d <sub>np</sub>         | -                       | -                       | 10.93                   | 10.93 |
| 2034 Buildout Total - Phase 3 AB 2                  |                         |                         |                         |                         |       |
| Probability of Blocked Lane                         | P <sub>b</sub>          | -                       | -                       | 38%                     | 38%   |
| Probability of Delayed Crossing                     | P <sub>d</sub>          | -                       | -                       | 62%                     | 62%   |
| Average Gap Delay                                   | d <sub>g</sub>          | -                       | -                       | 6.73                    | 6.73  |
| Non-zero Delay                                      | d <sub>np</sub>         | -                       | -                       | 10.93                   | 10.93 |
| 2034 Buildout Total - Phase 3 AB 3                  |                         |                         |                         |                         |       |
| Probability of Blocked Lane                         | P <sub>b</sub>          | -                       | -                       | 38%                     | 38%   |
| Probability of Delayed Crossing                     | P <sub>d</sub>          | -                       | -                       | 62%                     | 62%   |
| Average Gap Delay                                   | d <sub>g</sub>          | -                       | -                       | 6.73                    | 6.73  |
| Non-zero Delay                                      | d <sub>np</sub>         | -                       | -                       | 10.93                   | 10.93 |
| 2034 Buildout Total - Phase 3 AB 4                  |                         |                         |                         |                         |       |
| Probability of Blocked Lane                         | P <sub>b</sub>          | -                       | -                       | 38%                     | 38%   |
| Probability of Delayed Crossing                     | P <sub>d</sub>          | -                       | -                       | 62%                     | 62%   |
| Average Gap Delay                                   | d <sub>g</sub>          | -                       | -                       | 6.73                    | 6.73  |
| Non-zero Delay                                      | d <sub>np</sub>         | -                       | -                       | 17.71                   | 17.71 |
| 2021 Background Traffic                             |                         |                         |                         |                         |       |
| Probability of Blocked Lane                         | P <sub>b</sub>          | -                       | -                       | 26%                     | 26%   |
| Probability of Delayed Crossing                     | P <sub>d</sub>          | -                       | -                       | 45%                     | 45%   |
| Average Gap Delay                                   | d <sub>g</sub>          | -                       | -                       | 3.80                    | 3.80  |
| Non-zero Delay                                      | d <sub>np</sub>         | -                       | -                       | 14.62                   | 14.62 |
| 2029 Background Traffic                             |                         |                         |                         |                         |       |
| Probability of Blocked Lane                         | P <sub>b</sub>          | -                       | -                       | 33%                     | 33%   |
| Probability of Delayed Crossing                     | P <sub>d</sub>          | -                       | -                       | 95%                     | 95%   |
| Average Gap Delay                                   | d <sub>g</sub>          | -                       | -                       | 5.37                    | 5.37  |
| Non-zero Delay                                      | d <sub>np</sub>         | -                       | -                       | 16.27                   | 16.27 |
| 2029 Background Traffic with Superstreet (AB 1 & 3) |                         |                         |                         |                         |       |
| Probability of Blocked Lane                         | P <sub>b</sub>          | -                       | -                       | 28%                     | 28%   |
| Probability of Delayed Crossing                     | P <sub>d</sub>          | -                       | -                       | 48%                     | 48%   |
| Average Gap Delay                                   | d <sub>g</sub>          | -                       | -                       | 4.28                    | 4.28  |
| Non-zero Delay                                      | d <sub>np</sub>         | -                       | -                       | 15.29                   | 15.29 |
| 2034 Background Traffic                             |                         |                         |                         |                         |       |
| Probability of Blocked Lane                         | P <sub>b</sub>          | -                       | -                       | 38%                     | 38%   |
| Probability of Delayed Crossing                     | P <sub>d</sub>          | -                       | -                       | 62%                     | 62%   |
| Average Gap Delay                                   | d <sub>g</sub>          | -                       | -                       | 6.73                    | 6.73  |
| Non-zero Delay                                      | d <sub>np</sub>         | -                       | -                       | 17.71                   | 17.71 |
| 2034 Background Traffic with Superstreet (AB 1 & 3) |                         |                         |                         |                         |       |
| Probability of Blocked Lane                         | P <sub>b</sub>          | -                       | -                       | 38%                     | 38%   |
| Probability of Delayed Crossing                     | P <sub>d</sub>          | -                       | -                       | 62%                     | 62%   |
| Average Gap Delay                                   | d <sub>g</sub>          | -                       | -                       | 6.73                    | 6.73  |
| Non-zero Delay                                      | d <sub>np</sub>         | -                       | -                       | 17.71                   | 17.71 |

|                                         |         | 2020 Existing Traffic |    |    | 2027 Background Traffic |      |      | 2027 Buildout Total |    |      | 2032 Buildout Total |    |    | 2034 Buildout Total - Phase 1 AB 2 |       |    | 2034 Buildout Total - Phase 1 AB 3 |      |      | 2034 Buildout Total - Phase 1 AB 4 |    |      | 2021 Background Traffic |    |    |
|-----------------------------------------|---------|-----------------------|----|----|-------------------------|------|------|---------------------|----|------|---------------------|----|----|------------------------------------|-------|----|------------------------------------|------|------|------------------------------------|----|------|-------------------------|----|----|
|                                         |         | NB                    | SB | EB | WB                      | NB   | SB   | EB                  | WB | NB   | SB                  | EB | WB | NB                                 | SB    | EB | WB                                 | NB   | SB   | EB                                 | WB | NB   | SB                      | EB | WB |
| Volume                                  | B       | -                     | -  | -  | -                       | 695  | 695  | -                   | -  | 919  | 919                 | -  | -  | 1,095                              | 1,095 | -  | -                                  | 237  | 237  | -                                  | -  | 235  | 235                     | -  | -  |
| Conflicting w/ flow rate (vehicles) (v) | 1 Stage | -                     | -  | -  | -                       | 0.19 | 0.19 | -                   | -  | 0.26 | 0.26                | -  | -  | 0.30                               | 0.30  | -  | -                                  | 0.07 | 0.07 | -                                  | -  | 0.07 | 0.07                    | -  | -  |
|                                         | 2 Stage | -                     | -  | -  | -                       | -    | -    | -                   | -  | -    | -                   | -  | -  | -                                  | -     | -  | -                                  | -    | -    | -                                  | -  | -    | -                       | -  | -  |
| No. of lanes crossed                    |         | 2                     | 2  | 2  | 2                       | 2    | 2    | 2                   | 2  | 2    | 2                   | 2  | 2  | 2                                  | 2     | 2  | 2                                  | 2    | 2    | 2                                  | 2  | 2    | 2                       | 2  | 2  |

|                                         |         | 2021 Buildout Total - Phase 1 AB 1 |    |    | 2021 Buildout Total - Phase 1 AB 2 |      |      | 2021 Buildout Total - Phase 1 AB 3 |    |      | 2021 Buildout Total - Phase 1 AB 4 |    |    | 2029 Buildout Total - Phase 1 AB 1 |      |    | 2029 Buildout Total - Phase 1 AB 2 |      |      | 2029 Buildout Total - Phase 1 AB 3 |    |      | 2029 Buildout Total - Phase 1 AB 4 |    |    |
|-----------------------------------------|---------|------------------------------------|----|----|------------------------------------|------|------|------------------------------------|----|------|------------------------------------|----|----|------------------------------------|------|----|------------------------------------|------|------|------------------------------------|----|------|------------------------------------|----|----|
|                                         |         | NB                                 | SB | EB | WB                                 | NB   | SB   | EB                                 | WB | NB   | SB                                 | EB | WB | NB                                 | SB   | EB | WB                                 | NB   | SB   | EB                                 | WB | NB   | SB                                 | EB | WB |
| Volume                                  | 1 Stage | -                                  | -  | -  | -                                  | 215  | 215  | -                                  | -  | 215  | 215                                | -  | -  | 215                                | 215  | -  | -                                  | 263  | 263  | -                                  | -  | 263  | 263                                | -  | -  |
|                                         | 2 Stage | -                                  | -  | -  | -                                  | -    | -    | -                                  | -  | -    | -                                  | -  | -  | -                                  | -    | -  | -                                  | -    | -    | -                                  | -  | -    | -                                  | -  | -  |
| Conflicting w/ flow rate (vehicles) (v) | 1 Stage | -                                  | -  | -  | -                                  | 0.06 | 0.06 | -                                  | -  | 0.06 | 0.06                               | -  | -  | 0.06                               | 0.06 | -  | -                                  | 0.08 | 0.08 | -                                  | -  | 0.08 | 0.08                               | -  | -  |
|                                         | 2 Stage | -                                  | -  | -  | -                                  | -    | -    | -                                  | -  | -    | -                                  | -  | -  | -                                  | -    | -  | -                                  | -    | -    | -                                  | -  | -    | -                                  | -  | -  |
| No. of lanes crossed                    |         | 2                                  | 2  | 2  | 2                                  | 2    | 2    | 2                                  | 2  | 2    | 2                                  | 2  | 2  | 2                                  | 2    | 2  | 2                                  | 2    | 2    | 2                                  | 2  | 2    | 2                                  | 2  | 2  |

|                                         |         | 2034 Buildout Total - Phase 1 AB 1 |    |    | 2034 Buildout Total - Phase 1 AB 2 |      |      | 2034 Buildout Total - Phase 1 AB 3 |    |      | 2034 Buildout Total - Phase 1 AB 4 |    |    | 2029 Background Traffic |      |    | 2029 Background Traffic with Superstreet (AB 1 & 3) |      |      | 2034 Background Traffic |    |      | 2034 Background Traffic with Superstreet (AB 1 & 3) |    |    |
|-----------------------------------------|---------|------------------------------------|----|----|------------------------------------|------|------|------------------------------------|----|------|------------------------------------|----|----|-------------------------|------|----|-----------------------------------------------------|------|------|-------------------------|----|------|-----------------------------------------------------|----|----|
|                                         |         | NB                                 | SB | EB | WB                                 | NB   | SB   | EB                                 | WB | NB   | SB                                 | EB | WB | NB                      | SB   | EB | WB                                                  | NB   | SB   | EB                      | WB | NB   | SB                                                  | EB | WB |
| Volume                                  | 1 Stage | -                                  | -  | -  | -                                  | 335  | 335  | -                                  | -  | 335  | 335                                | -  | -  | 335                     | 335  | -  | -                                                   | 263  | 263  | -                       | -  | 335  | 335                                                 | -  | -  |
|                                         | 2 Stage | -                                  | -  | -  | -                                  | -    | -    | -                                  | -  | -    | -                                  | -  | -  | -                       | -    | -  | -                                                   | -    | -    | -                       | -  | -    | -                                                   | -  | -  |
| Conflicting w/ flow rate (vehicles) (v) | 1 Stage | -                                  | -  | -  | -                                  | 0.09 | 0.09 | -                                  | -  | 0.09 | 0.09                               | -  | -  | 0.09                    | 0.09 | -  | -                                                   | 0.08 | 0.08 | -                       | -  | 0.09 | 0.09                                                | -  | -  |
|                                         | 2 Stage | -                                  | -  | -  | -                                  | -    | -    | -                                  | -  | -    | -                                  | -  | -  | -                       | -    | -  | -                                                   | -    | -    | -                       | -  | -    | -                                                   | -  | -  |
| No. of lanes crossed                    |         | 2                                  | 2  | 2  | 2                                  | 2    | 2    | 2                                  | 2  | 2    | 2                                  | 2  | 2  | 2                       | 2    | 2  | 2                                                   | 2    | 2    | 2                       | 2  | 2    | 2                                                   | 2  | 2  |

| LOS | Control Delay (sec/ped) | Comments                                                                 | From HCM 6 |
|-----|-------------------------|--------------------------------------------------------------------------|------------|
| A   | 5                       | Usually no conflicting traffic                                           |            |
| B   | 10                      | Occasionally some delay due to conflicting traffic                       |            |
| C   | 20                      | Delay noticeable to pedestrians, but not inconveniencing                 |            |
| D   | 30                      | Delay noticeable and irritating, increased likelihood of risk taking     |            |
| E   | 40                      | Delay approaches tolerance level, risk taking behavior likely            |            |
| F   | > 45                    | Delay exceeds tolerance level, high likelihood of pedestrian risk taking |            |

| Results                            |       |               |
|------------------------------------|-------|---------------|
| 2020 Existing Traffic              | Delay | - - 21.4 21.4 |
|                                    | LOS   | - - D D       |
| 2027 Background Traffic            | Delay | - - 38.1 38.1 |
|                                    | LOS   | - - E E       |
| 2027 Buildout Total                | Delay | - - 38.1 38.1 |
|                                    | LOS   | - - E E       |
| 2032 Buildout Total                | Delay | - - 57.1 57.1 |
|                                    | LOS   | - - F F       |
| 2034 Buildout Total - Phase 1 AB 2 | Delay | - - 4.3 4.3   |
|                                    | LOS   | - - A A       |
| 2034 Buildout Total - Phase 1 AB 3 | Delay | - - 4.3 4.3   |
|                                    | LOS   | - - A A       |
| 2034 Buildout Total - Phase 1 AB 4 | Delay | - - 4.3 4.3   |
|                                    | LOS   | - - A A       |
| 2021 Buildout Total - Phase 1 AB 1 | Delay | - - 3.8 3.8   |
|                                    | LOS   | - - A A       |
| 2021 Buildout Total - Phase 1 AB 2 | Delay | - - 3.8 3.8   |
|                                    | LOS   | - - A A       |
| 2021 Buildout Total - Phase 1 AB 3 | Delay | - - 3.8 3.8   |
|                                    | LOS   | - - A A       |
| 2021 Buildout Total - Phase 1 AB 4 | Delay | - - 3.8 3.8   |
|                                    | LOS   | - - A A       |
| 2029 Buildout Total - Phase 3 AB 1 | Delay | - -           |

| Oakspring Rd and Stevens Mill Rd                     |                      |                      |                      |                      |
|------------------------------------------------------|----------------------|----------------------|----------------------|----------------------|
| PM PEAK HOUR                                         |                      |                      |                      |                      |
|                                                      | Crossing NB Approach | Crossing SB Approach | Crossing EB Approach | Crossing WB Approach |
| Major Street (Free Flow)                             | W                    | N                    | Y                    | Y                    |
| Crosswalk Length (ft)                                | L                    | 26                   | 26                   | 26                   |
| Walking Speed (ft/sec)                               | S <sub>w</sub>       | 3.5                  | 3.5                  | 3.5                  |
| Start Up Time                                        | t <sub>s</sub>       | 3                    | 3                    | 3                    |
| Critical Headway                                     | h <sub>c</sub>       | 19.00                | 3.00                 | 10.14                |
| 2 Stage Crossing? (Median > Y or N)                  | N                    | N                    | N                    | N                    |
| Yielding Vehicles? (Signage > Y or N)                | N                    | N                    | N                    | N                    |
| 2020 Existing Traffic                                |                      |                      |                      |                      |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | 60%                  | 60%                  |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | 84%                  | 84%                  |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | 16.63                | 16.63                |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | 22.18                | 22.18                |
| 2027 Background Traffic                              |                      |                      |                      |                      |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | 70%                  | 70%                  |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | 91%                  | 91%                  |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | 33.06                | 33.06                |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | 36.33                | 36.33                |
| 2027 Buildout Total                                  |                      |                      |                      |                      |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | 70%                  | 70%                  |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | 91%                  | 91%                  |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | 33.06                | 33.06                |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | 36.33                | 36.33                |
| 2032 Buildout Total                                  |                      |                      |                      |                      |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | 76%                  | 76%                  |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | 94%                  | 94%                  |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | 48.23                | 48.23                |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | 51.18                | 51.18                |
| 2024 Buildout Total - Phase 1 Alt 2                  |                      |                      |                      |                      |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | 27%                  | 27%                  |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | 94%                  | 94%                  |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | 3.91                 | 3.91                 |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | 4.15                 | 4.15                 |
| 2024 Buildout Total - Phase 1 Alt 3                  |                      |                      |                      |                      |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | 27%                  | 27%                  |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | 94%                  | 94%                  |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | 3.91                 | 3.91                 |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | 4.15                 | 4.15                 |
| 2024 Buildout Total - Phase 1 Alt 4                  |                      |                      |                      |                      |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | 27%                  | 27%                  |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | 94%                  | 94%                  |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | 3.91                 | 3.91                 |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | 4.15                 | 4.15                 |
| 2021 Buildout Total - Phase 1 Alt 1                  |                      |                      |                      |                      |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | 24%                  | 24%                  |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | 42%                  | 42%                  |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | 3.44                 | 3.44                 |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | 8.14                 | 8.14                 |
| 2021 Buildout Total - Phase 1 Alt 2                  |                      |                      |                      |                      |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | 24%                  | 24%                  |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | 42%                  | 42%                  |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | 3.44                 | 3.44                 |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | 8.14                 | 8.14                 |
| 2021 Buildout Total - Phase 1 Alt 3                  |                      |                      |                      |                      |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | 24%                  | 24%                  |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | 42%                  | 42%                  |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | 3.44                 | 3.44                 |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | 8.14                 | 8.14                 |
| 2021 Buildout Total - Phase 1 Alt 4                  |                      |                      |                      |                      |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | 24%                  | 24%                  |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | 42%                  | 42%                  |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | 3.44                 | 3.44                 |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | 8.14                 | 8.14                 |
| 2029 Buildout Total - Phase 3 Alt 1                  |                      |                      |                      |                      |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | 31%                  | 31%                  |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | 42%                  | 42%                  |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | 4.84                 | 4.84                 |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | 11.46                | 11.46                |
| 2029 Buildout Total - Phase 3 Alt 2                  |                      |                      |                      |                      |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | 31%                  | 31%                  |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | 94%                  | 94%                  |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | 4.84                 | 4.84                 |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | 5.14                 | 5.14                 |
| 2029 Buildout Total - Phase 3 Alt 3                  |                      |                      |                      |                      |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | 31%                  | 31%                  |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | 94%                  | 94%                  |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | 4.84                 | 4.84                 |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | 5.14                 | 5.14                 |
| 2029 Buildout Total - Phase 3 Alt 4                  |                      |                      |                      |                      |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | 31%                  | 31%                  |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | 94%                  | 94%                  |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | 4.84                 | 4.84                 |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | 5.14                 | 5.14                 |
| 2034 Buildout Total - Phase 3 Alt 1                  |                      |                      |                      |                      |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | 35%                  | 35%                  |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | 58%                  | 58%                  |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | 6.06                 | 6.06                 |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | 10.49                | 10.49                |
| 2034 Buildout Total - Phase 3 Alt 2                  |                      |                      |                      |                      |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | 35%                  | 35%                  |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | 58%                  | 58%                  |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | 6.06                 | 6.06                 |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | 10.49                | 10.49                |
| 2034 Buildout Total - Phase 3 Alt 3                  |                      |                      |                      |                      |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | 35%                  | 35%                  |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | 58%                  | 58%                  |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | 6.06                 | 6.06                 |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | 10.49                | 10.49                |
| 2034 Buildout Total - Phase 3 Alt 4                  |                      |                      |                      |                      |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | 35%                  | 35%                  |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | 58%                  | 58%                  |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | 6.06                 | 6.06                 |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | 17.31                | 17.31                |
| 2021 Background Traffic                              |                      |                      |                      |                      |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | 24%                  | 24%                  |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | 42%                  | 42%                  |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | 3.44                 | 3.44                 |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | 14.33                | 14.33                |
| 2029 Background Traffic                              |                      |                      |                      |                      |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | 31%                  | 31%                  |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | 52%                  | 52%                  |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | 4.84                 | 4.84                 |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | 15.61                | 15.61                |
| 2029 Background Traffic with Superstreet (Alt 1 & 3) |                      |                      |                      |                      |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | 31%                  | 31%                  |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | 52%                  | 52%                  |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | 4.84                 | 4.84                 |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | 15.61                | 15.61                |
| 2034 Background Traffic                              |                      |                      |                      |                      |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | 35%                  | 35%                  |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | 58%                  | 58%                  |

|                                         |         | 2020 Existing Traffic |    |      |      | 2027 Background Traffic |    |      |      | 2027 Buildout Total |    |      |      | 2032 Buildout Total |    |       |       | 2024 Buildout Total - Phase 1 Alt 2 |    |      |      | 2024 Buildout Total - Phase 1 Alt 3 |    |      |      | 2024 Buildout Total - Phase 1 Alt 4 |    |      |      | 2021 Background Traffic |    |      |      |
|-----------------------------------------|---------|-----------------------|----|------|------|-------------------------|----|------|------|---------------------|----|------|------|---------------------|----|-------|-------|-------------------------------------|----|------|------|-------------------------------------|----|------|------|-------------------------------------|----|------|------|-------------------------|----|------|------|
|                                         |         | NB                    | SB | EB   | WB   | NB                      | SB | EB   | WB   | NB                  | SB | EB   | WB   | NB                  | SB | EB    | WB    | NB                                  | SB | EB   | WB   | NB                                  | SB | EB   | WB   | NB                                  | SB | EB   | WB   | NB                      | SB | EB   | WB   |
| Volume                                  | 1 Stage | -                     | -  | 645  | 645  | -                       | -  | 862  | 862  | -                   | -  | 862  | 862  | -                   | -  | 1,015 | 1,015 | -                                   | -  | 220  | 220  | -                                   | -  | 220  | 220  | -                                   | -  | 220  | 220  | -                       | -  | 198  | 198  |
|                                         | 2 Stage | -                     | -  | -    | -    | -                       | -  | -    | -    | -                   | -  | -    | -    | -                   | -  | -     | -     | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                       | -  | -    |      |
| Conflicting veh flow rate (veh/sec) (v) | 1 Stage | -                     | -  | 0.18 | 0.18 | -                       | -  | 0.24 | 0.24 | -                   | -  | 0.24 | 0.24 | -                   | -  | 0.28  | 0.28  | -                                   | -  | 0.06 | 0.06 | -                                   | -  | 0.06 | 0.06 | -                                   | -  | 0.06 | 0.06 | -                       | -  | 0.06 | 0.06 |
|                                         | 2 Stage | -                     | -  | -    | -    | -                       | -  | -    | -    | -                   | -  | -    | -    | -                   | -  | -     | -     | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                       | -  | -    |      |
| No. of lanes crossed                    |         | 2                     | 2  | 2    | 2    | 2                       | 2  | 2    | 2    | 2                   | 2  | 2    | 2    | 2                   | 2  | 2     | 2     | 2                                   | 2  | 2    | 2    | 2                                   | 2  | 2    | 2    | 2                                   | 2  | 2    | 2    | 2                       | 2  | 2    |      |

|                                         |         | 2021 Buildout Total - Phase 1 Alt 1 |    |      |      | 2021 Buildout Total - Phase 1 Alt 2 |    |      |      | 2021 Buildout Total - Phase 1 Alt 3 |    |      |      | 2021 Buildout Total - Phase 1 Alt 4 |    |      |      | 2029 Buildout Total - Phase 3 Alt 1 |    |      |      | 2029 Buildout Total - Phase 3 Alt 2 |    |      |      | 2029 Buildout Total - Phase 3 Alt 3 |    |      |      | 2029 Buildout Total - Phase 3 Alt 4 |    |      |      |
|-----------------------------------------|---------|-------------------------------------|----|------|------|-------------------------------------|----|------|------|-------------------------------------|----|------|------|-------------------------------------|----|------|------|-------------------------------------|----|------|------|-------------------------------------|----|------|------|-------------------------------------|----|------|------|-------------------------------------|----|------|------|
|                                         |         | NB                                  | SB | EB   | WB   | NB                                  | SB | EB   | WB   | NB                                  | SB | EB   | WB   | NB                                  | SB | EB   | WB   | NB                                  | SB | EB   | WB   | NB                                  | SB | EB   | WB   | NB                                  | SB | EB   | WB   | NB                                  | SB | EB   | WB   |
| Volume                                  | 1 Stage | -                                   | -  | 198  | 198  | -                                   | -  | 198  | 198  | -                                   | -  | 198  | 198  | -                                   | -  | 198  | 198  | -                                   | -  | 261  | 261  | -                                   | -  | 261  | 261  | -                                   | -  | 261  | 261  | -                                   | -  | 261  | 261  |
|                                         | 2 Stage | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                                   | -  | -    |      |
| Conflicting veh flow rate (veh/sec) (v) | 1 Stage | -                                   | -  | 0.06 | 0.06 | -                                   | -  | 0.06 | 0.06 | -                                   | -  | 0.06 | 0.06 | -                                   | -  | 0.06 | 0.06 | -                                   | -  | 0.07 | 0.07 | -                                   | -  | 0.07 | 0.07 | -                                   | -  | 0.07 | 0.07 | -                                   | -  | 0.07 | 0.07 |
|                                         | 2 Stage | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                                   | -  | -    |      |
| No. of lanes crossed                    |         | 2                                   | 2  | 2    | 2    | 2                                   | 2  | 2    | 2    | 2                                   | 2  | 2    | 2    | 2                                   | 2  | 2    | 2    | 2                                   | 2  | 2    | 2    | 2                                   | 2  | 2    | 2    | 2                                   | 2  | 2    | 2    | 2                                   | 2  | 2    |      |

|                                         |         | 2034 Buildout Total - Phase 3 Alt 1 |    |      |      | 2034 Buildout Total - Phase 3 Alt 2 |    |      |      | 2034 Buildout Total - Phase 3 Alt 3 |    |      |      | 2034 Buildout Total - Phase 3 Alt 4 |    |      |      | 2029 Background Traffic |    |      |      | 2029 Background Traffic with Superstreet (Alt 1 & 3) |    |      |      | 2034 Background Traffic with Superstreet (Alt 1 & 3) |    |      |      | 2034 Background Traffic with Superstreet (Alt 1 & 3) |   |      |      |
|-----------------------------------------|---------|-------------------------------------|----|------|------|-------------------------------------|----|------|------|-------------------------------------|----|------|------|-------------------------------------|----|------|------|-------------------------|----|------|------|------------------------------------------------------|----|------|------|------------------------------------------------------|----|------|------|------------------------------------------------------|---|------|------|
|                                         |         | NB                                  | SB | EB   | WB   | NB                                  | SB | EB   | WB   | NB                                  | SB | EB   | WB   | NB                                  | SB | EB   | WB   | NB                      | SB | EB   | WB   | NB                                                   | SB | EB   | WB   | NB                                                   | SB | EB   | WB   |                                                      |   |      |      |
| Volume                                  | 1 Stage | -                                   | -  | 310  | 310  | -                                   | -  | 310  | 310  | -                                   | -  | 310  | 310  | -                                   | -  | 310  | 310  | -                       | -  | 261  | 261  | -                                                    | -  | 261  | 261  | -                                                    | -  | 310  | 310  | -                                                    | - | 310  | 310  |
|                                         | 2 Stage | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                       | -  | -    | -    | -                                                    | -  | -    | -    | -                                                    | -  | -    | -    | -                                                    | - | -    |      |
| Conflicting veh flow rate (veh/sec) (v) | 1 Stage | -                                   | -  | 0.09 | 0.09 | -                                   | -  | 0.09 | 0.09 | -                                   | -  | 0.09 | 0.09 | -                                   | -  | 0.09 | 0.09 | -                       | -  | 0.07 | 0.07 | -                                                    | -  | 0.07 | 0.07 | -                                                    | -  | 0.09 | 0.09 | -                                                    | - | 0.09 | 0.09 |
|                                         | 2 Stage | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                       | -  | -    | -    | -                                                    | -  | -    | -    | -                                                    | -  | -    | -    | -                                                    | - | -    |      |
| No. of lanes crossed                    |         | 2                                   | 2  | 2    | 2    | 2                                   | 2  | 2    | 2    | 2                                   | 2  | 2    | 2    | 2                                   | 2  | 2    | 2    | 2                       | 2  | 2    | 2    | 2                                                    | 2  | 2    | 2    | 2                                                    | 2  | 2    | 2    | 2                                                    | 2 | 2    |      |

| LOS | Control Delay (sec/pd) | Comments                                                                 | From HCM 6 |
|-----|------------------------|--------------------------------------------------------------------------|------------|
| A   | 5                      | Usually no conflicting traffic                                           |            |
| B   | 10                     | Occasionally some delay due to conflicting traffic                       |            |
| C   | 20                     | Delay noticeable to pedestrians, but not inconveniencing                 |            |
| D   | 30                     | Delay noticeable and irritating, increased likelihood of risk taking     |            |
| E   | 45                     | Delay approaches tolerance level, risk-taking behavior likely            |            |
| F   | > 45                   | Delay exceeds tolerance level, high likelihood of pedestrian risk taking |            |

|                                                      |       | Results |   |      |      |
|------------------------------------------------------|-------|---------|---|------|------|
| 2020 Existing Traffic                                | Delay | -       | - | 18.6 | 18.6 |
|                                                      | LOS   | -       | - | C    | C    |
| 2027 Background Traffic                              | Delay | -       | - | 33.1 | 33.1 |
|                                                      | LOS   | -       | - | E    | E    |
| 2027 Buildout Total                                  | Delay | -       | - | 33.1 | 33.1 |
|                                                      | LOS   | -       | - | E    | E    |
| 2032 Buildout Total                                  | Delay | -       | - | 48.2 | 48.2 |
|                                                      | LOS   | -       | - | F    | F    |
| 2024 Buildout Total - Phase 1 Alt 2                  | Delay | -       | - | 3.9  | 3.9  |
|                                                      | LOS   | -       | - | A    | A    |
| 2024 Buildout Total - Phase 1 Alt 3                  | Delay | -       | - | 3.9  | 3.9  |
|                                                      | LOS   | -       | - | A    | A    |
| 2024 Buildout Total - Phase 1 Alt 4                  | Delay | -       | - | 3.9  | 3.9  |
|                                                      | LOS   | -       | - | A    | A    |
| 2021 Buildout Total - Phase 1 Alt 1                  | Delay | -       | - | 3.4  | 3.4  |
|                                                      | LOS   | -       | - | A    | A    |
| 2021 Buildout Total - Phase 1 Alt 2                  | Delay | -       | - | 3.4  | 3.4  |
|                                                      | LOS   | -       | - | A    | A    |
| 2021 Buildout Total - Phase 1 Alt 3                  | Delay | -       | - | 3.4  | 3.4  |
|                                                      | LOS   | -       | - | A    | A    |
| 2021 Buildout Total - Phase 1 Alt 4                  | Delay | -       | - | 3.4  | 3.4  |
|                                                      | LOS   | -       | - | A    | A    |
| 2029 Buildout Total - Phase 1 Alt 1                  | Delay | -       | - | 4.8  | 4.8  |
|                                                      | LOS   | -       | - | A    | A    |
| 2029 Buildout Total - Phase 1 Alt 2                  | Delay | -       | - | 4.8  | 4.8  |
|                                                      | LOS   | -       | - | A    | A    |
| 2029 Buildout Total - Phase 1 Alt 3                  | Delay | -       | - | 4.8  | 4.8  |
|                                                      | LOS   | -       | - | A    | A    |
| 2029 Buildout Total - Phase 1 Alt 4                  | Delay | -       | - | 4.8  | 4.8  |
|                                                      | LOS   | -       | - | A    | A    |
| 2034 Buildout Total - Phase 3 Alt 1                  | Delay | -       | - | 6.1  | 6.1  |
|                                                      | LOS   | -       | - | B    | B    |
| 2034 Buildout Total - Phase 3 Alt 2                  | Delay | -       | - | 6.1  | 6.1  |
|                                                      | LOS   | -       | - | B    | B    |
| 2034 Buildout Total - Phase 3 Alt 3                  | Delay | -       | - | 6.1  | 6.1  |
|                                                      | LOS   | -       | - | B    | B    |
| 2034 Buildout Total - Phase 3 Alt 4                  | Delay | -       | - | 6.1  | 6.1  |
|                                                      | LOS   | -       | - | B    | B    |
| 2021 Background Traffic                              | Delay | -       | - | 3.4  | 3.4  |
|                                                      | LOS   | -       | - | A    | A    |
| 2029 Background Traffic                              | Delay | -       | - | 4.8  | 4.8  |
|                                                      | LOS   | -       | - | A    | A    |
| 2029 Background Traffic with Superstreet (Alt 1 & 2) | Delay | -       | - | 4.8  | 4.8  |
|                                                      | LOS   | -       | - | A    | A    |
| 2034 Background Traffic                              | Delay | -       | - | 6.1  | 6.1  |
|                                                      | LOS   | -       | - | B    | B    |
| 2034 Background Traffic with Superstreet (Alt 1 & 2) | Delay | -       | - | 6.1  | 6.1  |
|                                                      | LOS   | -       | - | B    | B    |



| Stallings Road and Access #1                         |                      |                      |                      |                      |       |
|------------------------------------------------------|----------------------|----------------------|----------------------|----------------------|-------|
| PM PEAK HOUR                                         |                      |                      |                      |                      |       |
|                                                      | Crossing NB Approach | Crossing SB Approach | Crossing EB Approach | Crossing WB Approach |       |
| Major Street (Free Flow)                             | Y                    | Y                    | N                    | N                    |       |
| Crosswalk Length (ft)                                | L                    | 25                   | 25                   | 25                   |       |
| Walking Speed (ft/sec)                               | S <sub>w</sub>       | 3.5                  | 3.5                  | 3.5                  | 3.5   |
| Start Up Time                                        | t <sub>u</sub>       | 3                    | 3                    | 3                    | 3     |
| Critical Headway                                     | t <sub>c</sub>       | 10.14                | 10.14                | 10.14                | 10.14 |
| 2 Stage Crossing? (Median = Y or N)                  | N                    | N                    | N                    | N                    |       |
| Yielding Vehicles? (Signage = Y or N)                | N                    | N                    | N                    | N                    |       |
| 2020 Existing Traffic                                |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 61%                  | 61%                  | -                    | -     |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 85%                  | 85%                  | -                    | -     |
| Average Gap Delay                                    | d <sub>g</sub>       | 20.36                | 20.36                | -                    | -     |
| Non-zero Delay                                       | d <sub>net</sub>     | 24.01                | 24.01                | -                    | -     |
| 2027 Background Traffic                              |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 77%                  | 77%                  | -                    | -     |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 95%                  | 95%                  | -                    | -     |
| Average Gap Delay                                    | d <sub>g</sub>       | 53.25                | 53.25                | -                    | -     |
| Non-zero Delay                                       | d <sub>net</sub>     | 56.22                | 56.22                | -                    | -     |
| 2027 Buildout Total                                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 78%                  | 78%                  | -                    | -     |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 95%                  | 95%                  | -                    | -     |
| Average Gap Delay                                    | d <sub>g</sub>       | 54.02                | 54.02                | -                    | -     |
| Non-zero Delay                                       | d <sub>net</sub>     | 56.77                | 56.77                | -                    | -     |
| 2032 Buildout Total                                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 82%                  | 82%                  | -                    | -     |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 97%                  | 97%                  | -                    | -     |
| Average Gap Delay                                    | d <sub>g</sub>       | 79.43                | 79.43                | -                    | -     |
| Non-zero Delay                                       | d <sub>net</sub>     | 82.09                | 82.09                | -                    | -     |
| 2034 Buildout Total - Phase 1 Alt 2                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 39%                  | 39%                  | -                    | -     |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 97%                  | 97%                  | -                    | -     |
| Average Gap Delay                                    | d <sub>g</sub>       | 7.15                 | 7.15                 | -                    | -     |
| Non-zero Delay                                       | d <sub>net</sub>     | 7.39                 | 7.39                 | -                    | -     |
| 2034 Buildout Total - Phase 1 Alt 3                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 39%                  | 39%                  | -                    | -     |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 97%                  | 97%                  | -                    | -     |
| Average Gap Delay                                    | d <sub>g</sub>       | 7.15                 | 7.15                 | -                    | -     |
| Non-zero Delay                                       | d <sub>net</sub>     | 7.39                 | 7.39                 | -                    | -     |
| 2034 Buildout Total - Phase 1 Alt 4                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 39%                  | 39%                  | -                    | -     |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 97%                  | 97%                  | -                    | -     |
| Average Gap Delay                                    | d <sub>g</sub>       | 7.15                 | 7.15                 | -                    | -     |
| Non-zero Delay                                       | d <sub>net</sub>     | 7.39                 | 7.39                 | -                    | -     |
| 2021 Buildout Total - Phase 1 Alt 1                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 35%                  | 35%                  | -                    | -     |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 58%                  | 58%                  | -                    | -     |
| Average Gap Delay                                    | d <sub>g</sub>       | 6.03                 | 6.03                 | -                    | -     |
| Non-zero Delay                                       | d <sub>net</sub>     | 10.44                | 10.44                | -                    | -     |
| 2021 Buildout Total - Phase 1 Alt 2                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 35%                  | 35%                  | -                    | -     |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 58%                  | 58%                  | -                    | -     |
| Average Gap Delay                                    | d <sub>g</sub>       | 6.01                 | 6.01                 | -                    | -     |
| Non-zero Delay                                       | d <sub>net</sub>     | 10.41                | 10.41                | -                    | -     |
| 2021 Buildout Total - Phase 1 Alt 3                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 35%                  | 35%                  | -                    | -     |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 58%                  | 58%                  | -                    | -     |
| Average Gap Delay                                    | d <sub>g</sub>       | 6.01                 | 6.01                 | -                    | -     |
| Non-zero Delay                                       | d <sub>net</sub>     | 10.41                | 10.41                | -                    | -     |
| 2021 Buildout Total - Phase 1 Alt 4                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 35%                  | 35%                  | -                    | -     |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 58%                  | 58%                  | -                    | -     |
| Average Gap Delay                                    | d <sub>g</sub>       | 6.01                 | 6.01                 | -                    | -     |
| Non-zero Delay                                       | d <sub>net</sub>     | 10.41                | 10.41                | -                    | -     |
| 2029 Buildout Total - Phase 3 Alt 1                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 45%                  | 45%                  | -                    | -     |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 58%                  | 58%                  | -                    | -     |
| Average Gap Delay                                    | d <sub>g</sub>       | 9.24                 | 9.24                 | -                    | -     |
| Non-zero Delay                                       | d <sub>net</sub>     | 16.00                | 16.00                | -                    | -     |
| 2029 Buildout Total - Phase 3 Alt 2                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 45%                  | 45%                  | -                    | -     |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 97%                  | 97%                  | -                    | -     |
| Average Gap Delay                                    | d <sub>g</sub>       | 9.24                 | 9.24                 | -                    | -     |
| Non-zero Delay                                       | d <sub>net</sub>     | 9.55                 | 9.55                 | -                    | -     |
| 2029 Buildout Total - Phase 3 Alt 3                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 45%                  | 45%                  | -                    | -     |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 97%                  | 97%                  | -                    | -     |
| Average Gap Delay                                    | d <sub>g</sub>       | 9.24                 | 9.24                 | -                    | -     |
| Non-zero Delay                                       | d <sub>net</sub>     | 9.55                 | 9.55                 | -                    | -     |
| 2029 Buildout Total - Phase 3 Alt 4                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 45%                  | 45%                  | -                    | -     |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 97%                  | 97%                  | -                    | -     |
| Average Gap Delay                                    | d <sub>g</sub>       | 9.24                 | 9.24                 | -                    | -     |
| Non-zero Delay                                       | d <sub>net</sub>     | 9.55                 | 9.55                 | -                    | -     |
| 2034 Buildout Total - Phase 3 Alt 1                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 50%                  | 50%                  | -                    | -     |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 75%                  | 75%                  | -                    | -     |
| Average Gap Delay                                    | d <sub>g</sub>       | 11.88                | 11.88                | -                    | -     |
| Non-zero Delay                                       | d <sub>net</sub>     | 15.84                | 15.84                | -                    | -     |
| 2034 Buildout Total - Phase 3 Alt 2                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 50%                  | 50%                  | -                    | -     |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 75%                  | 75%                  | -                    | -     |
| Average Gap Delay                                    | d <sub>g</sub>       | 11.88                | 11.88                | -                    | -     |
| Non-zero Delay                                       | d <sub>net</sub>     | 15.84                | 15.84                | -                    | -     |
| 2034 Buildout Total - Phase 3 Alt 3                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 50%                  | 50%                  | -                    | -     |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 75%                  | 75%                  | -                    | -     |
| Average Gap Delay                                    | d <sub>g</sub>       | 11.88                | 11.88                | -                    | -     |
| Non-zero Delay                                       | d <sub>net</sub>     | 15.84                | 15.84                | -                    | -     |
| 2034 Buildout Total - Phase 3 Alt 4                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 50%                  | 50%                  | -                    | -     |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 75%                  | 75%                  | -                    | -     |
| Average Gap Delay                                    | d <sub>g</sub>       | 11.88                | 11.88                | -                    | -     |
| Non-zero Delay                                       | d <sub>net</sub>     | 23.76                | 23.76                | -                    | -     |
| 2021 Background Traffic                              |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 34%                  | 34%                  | -                    | -     |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 56%                  | 56%                  | -                    | -     |
| Average Gap Delay                                    | d <sub>g</sub>       | 5.77                 | 5.77                 | -                    | -     |
| Non-zero Delay                                       | d <sub>net</sub>     | 16.97                | 16.97                | -                    | -     |
| 2029 Background Traffic                              |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 43%                  | 43%                  | -                    | -     |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 68%                  | 68%                  | -                    | -     |
| Average Gap Delay                                    | d <sub>g</sub>       | 8.42                 | 8.42                 | -                    | -     |
| Non-zero Delay                                       | d <sub>net</sub>     | 19.58                | 19.58                | -                    | -     |
| 2034 Background Traffic with Superstreet (Alt 1 & 3) |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 43%                  | 43%                  | -                    | -     |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 68%                  | 68%                  | -                    | -     |
| Average Gap Delay                                    | d <sub>g</sub>       | 8.42                 | 8.42                 | -                    | -     |
| Non-zero Delay                                       | d <sub>net</sub>     | 19.58                | 19.58                | -                    | -     |
| 2034 Background Traffic                              |                      |                      |                      |                      |       |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 48%                  | 48%                  | -                    | -     |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 73%                  | 73%                  | -                    | -     |

|                                         |         | 2020 Existing Traffic |      |    |    | 2027 Background Traffic |       |    |    | 2027 Buildout Total |       |    |    | 2032 Buildout Total |       |    |    | 2034 Buildout Total - Phase 1 Alt 2 |      |    |    | 2034 Buildout Total - Phase 1 Alt 3 |      |    |    | 2034 Buildout Total - Phase 1 Alt 4 |      |    |    | 2029 Buildout Total - Phase 3 Alt 1 |      |    |    | 2029 Buildout Total - Phase 3 Alt 2 |      |    |    | 2029 Buildout Total - Phase 3 Alt 3 |      |    |    | 2021 Background Traffic |    |    |    |
|-----------------------------------------|---------|-----------------------|------|----|----|-------------------------|-------|----|----|---------------------|-------|----|----|---------------------|-------|----|----|-------------------------------------|------|----|----|-------------------------------------|------|----|----|-------------------------------------|------|----|----|-------------------------------------|------|----|----|-------------------------------------|------|----|----|-------------------------------------|------|----|----|-------------------------|----|----|----|
|                                         |         | NB                    | SB   | EB | WB | NB                      | SB    | EB | WB | NB                  | SB    | EB | WB | NB                  | SB    | EB | WB | NB                                  | SB   | EB | WB | NB                                  | SB   | EB | WB | NB                                  | SB   | EB | WB | NB                                  | SB   | EB | WB | NB                                  | SB   | EB | WB | NB                                  | SB   | EB | WB | NB                      | SB | EB | WB |
| Volume                                  | 1 Stage | 677                   | 677  | -  | -  | 1,056                   | 1,056 | -  | -  | 1,062               | 1,062 | -  | -  | 1,224               | 1,224 | -  | -  | 350                                 | 350  | -  | -  | 350                                 | 350  | -  | -  | 350                                 | 350  | -  | -  | 350                                 | 350  | -  | -  | 350                                 | 350  | -  | -  | 299                                 | 299  | -  | -  | -                       | -  | -  | -  |
|                                         | 2 Stage | -                     | -    | -  | -  | -                       | -     | -  | -  | -                   | -     | -  | -  | -                   | -     | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                       | -  | -  | -  |
| Conflicting veh flow rate (veh/sec) (v) | 1 Stage | 0.19                  | 0.19 | -  | -  | 0.29                    | 0.29  | -  | -  | 0.30                | 0.30  | -  | -  | 0.34                | 0.34  | -  | -  | 0.10                                | 0.10 | -  | -  | 0.10                                | 0.10 | -  | -  | 0.10                                | 0.10 | -  | -  | 0.10                                | 0.10 | -  | -  | 0.10                                | 0.10 | -  | -  | 0.08                                | 0.08 | -  | -  | -                       | -  | -  | -  |
| 2 Stage                                 | -       | -                     | -    | -  | -  | -                       | -     | -  | -  | -                   | -     | -  | -  | -                   | -     | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                       | -  | -  | -  |
| No. of lanes crossed                    |         | 2                     | 2    | 2  | 2  | 2                       | 2     | 2  | 2  | 2                   | 2     | 2  | 2  | 2                   | 2     | 2  | 2  | 2                                   | 2    | 2  | 2  | 2                                   | 2    | 2  | 2  | 2                                   | 2    | 2  | 2  | 2                                   | 2    | 2  | 2  | 2                                   | 2    | 2  | 2  | 2                                   | 2    | 2  | 2  | 2                       | 2  | 2  | 2  |

|                                         |         | 2021 Buildout Total - Phase 1 Alt 1 |      |    |    | 2021 Buildout Total - Phase 1 Alt 2 |      |    |    | 2021 Buildout Total - Phase 1 Alt 3 |      |    |    | 2021 Buildout Total - Phase 1 Alt 4 |      |    |    | 2029 Buildout Total - Phase 3 Alt 1 |      |    |    | 2029 Buildout Total - Phase 3 Alt 2 |      |    |    | 2029 Buildout Total - Phase 3 Alt 3 |      |    |    | 2029 Buildout Total - Phase 3 Alt 4 |      |    |    |      |      |   |   |
|-----------------------------------------|---------|-------------------------------------|------|----|----|-------------------------------------|------|----|----|-------------------------------------|------|----|----|-------------------------------------|------|----|----|-------------------------------------|------|----|----|-------------------------------------|------|----|----|-------------------------------------|------|----|----|-------------------------------------|------|----|----|------|------|---|---|
|                                         |         | NB                                  | SB   | EB | WB | NB                                  | SB   | EB | WB | NB                                  | SB   | EB | WB | NB                                  | SB   | EB | WB | NB                                  | SB   | EB | WB | NB                                  | SB   | EB | WB | NB                                  | SB   | EB | WB | NB                                  | SB   | EB | WB |      |      |   |   |
| Volume                                  | 1 Stage | 308                                 | 308  | -  | -  | 308                                 | 308  | -  | -  | 308                                 | 308  | -  | -  | 308                                 | 308  | -  | -  | 419                                 | 419  | -  | -  | 419                                 | 419  | -  | -  | 419                                 | 419  | -  | -  | 419                                 | 419  | -  | -  | -    | -    |   |   |
|                                         | 2 Stage | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -    | -    |   |   |
| Conflicting veh flow rate (veh/sec) (v) | 1 Stage | 0.09                                | 0.09 | -  | -  | 0.09                                | 0.09 | -  | -  | 0.09                                | 0.09 | -  | -  | 0.09                                | 0.09 | -  | -  | 0.12                                | 0.12 | -  | -  | 0.12                                | 0.12 | -  | -  | 0.12                                | 0.12 | -  | -  | 0.12                                | 0.12 | -  | -  | 0.12 | 0.12 | - | - |
|                                         | 2 Stage | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -    | -    | - |   |
| No. of lanes crossed                    |         | 2                                   | 2    | 2  | 2  | 2                                   | 2    | 2  | 2  | 2                                   | 2    | 2  | 2  | 2                                   | 2    | 2  | 2  | 2                                   | 2    | 2  | 2  | 2                                   | 2    | 2  | 2  | 2                                   | 2    | 2  | 2  | 2                                   | 2    | 2  | 2  | 2    | 2    | 2 | 2 |

|                                         |         | 2034 Buildout Total - Phase 3 Alt 1 |      |    |    | 2034 Buildout Total - Phase 3 Alt 2 |      |    |    | 2034 Buildout Total - Phase 3 Alt 3 |      |    |    | 2034 Buildout Total - Phase 3 Alt 4 |      |    |    | 2029 Background Traffic |      |    |    | 2029 Background Traffic with Superstreet (Alt 1 & 3) |      |    |    | 2034 Background Traffic |      |    |    | 2034 Background Traffic with Superstreet (Alt 1 & 3) |      |    |    |   |   |
|-----------------------------------------|---------|-------------------------------------|------|----|----|-------------------------------------|------|----|----|-------------------------------------|------|----|----|-------------------------------------|------|----|----|-------------------------|------|----|----|------------------------------------------------------|------|----|----|-------------------------|------|----|----|------------------------------------------------------|------|----|----|---|---|
|                                         |         | NB                                  | SB   | EB | WB | NB                                  | SB   | EB | WB | NB                                  | SB   | EB | WB | NB                                  | SB   | EB | WB | NB                      | SB   | EB | WB | NB                                                   | SB   | EB | WB | NB                      | SB   | EB | WB | NB                                                   | SB   | EB | WB |   |   |
| Volume                                  | 1 Stage | 494                                 | 494  | -  | -  | 494                                 | 494  | -  | -  | 494                                 | 494  | -  | -  | 494                                 | 494  | -  | -  | 393                     | 393  | -  | -  | 393                                                  | 393  | -  | -  | 408                     | 408  | -  | -  | 408                                                  | 408  | -  | -  | - | - |
|                                         | 2 Stage | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                       | -    | -  | -  | -                                                    | -    | -  | -  | -                       | -    | -  | -  | -                                                    | -    | -  | -  | - | - |
| Conflicting veh flow rate (veh/sec) (v) |         | 0.14                                | 0.14 | -  | -  | 0.14                                | 0.14 | -  | -  | 0.14                                | 0.14 | -  | -  | 0.14                                | 0.14 | -  | -  | 0.11                    | 0.11 | -  | -  | 0.11                                                 | 0.11 | -  | -  | 0.13                    | 0.13 | -  | -  | 0.13                                                 | 0.13 | -  | -  | - | - |
| No. of lanes crossed                    |         | 2                                   | 2    | 2  | 2  | 2                                   | 2    | 2  | 2  | 2                                   | 2    | 2  | 2  | 2                                   | 2    | 2  | 2  | 2                       | 2    | 2  | 2  | 2                                                    | 2    | 2  | 2  | 2                       | 2    | 2  | 2  | 2                                                    | 2    | 2  | 2  | 2 | 2 |



| Oakspring Road and Access #2                        |                       |                      |                      |                      |
|-----------------------------------------------------|-----------------------|----------------------|----------------------|----------------------|
|                                                     | AM PEAK HOUR          |                      |                      |                      |
|                                                     | Crossing NB Approach  | Crossing SB Approach | Crossing EB Approach | Crossing WB Approach |
| Major Street (Front Flow)                           |                       |                      |                      |                      |
| Crosswalk Length (ft)                               | L 25                  | 25                   | 25                   | 0                    |
| Walking Speed (ft/sec)                              | S <sub>w</sub> 3.5    | 3.5                  | 3.5                  | 3.5                  |
| Start Up Time                                       | t <sub>s</sub> 3      | 3                    | 3                    | -                    |
| Critical Headway                                    | t <sub>c</sub> 10.14  | 10.14                | 10.14                | 3.00                 |
| 1 Stage Crossings (Median > Y or N)                 | N                     | N                    | N                    | N                    |
| Yielding Vehicles (Supergate < Y or N)              | N                     | N                    | N                    | N                    |
| 2020 Existing Traffic                               |                       |                      |                      |                      |
| Probability of Blocked Lane                         | P <sub>b</sub> 62%    | 62%                  | -                    | -                    |
| Probability of Delayed Crossing                     | P <sub>d</sub> 86%    | 96%                  | -                    | -                    |
| Average Gap Delay                                   | d <sub>g</sub> 20.75  | 20.75                | -                    | -                    |
| Non-zero Delay                                      | d <sub>np</sub> 24.25 | 24.25                | -                    | -                    |
| 2027 Background Traffic                             |                       |                      |                      |                      |
| Probability of Blocked Lane                         | P <sub>b</sub> 74%    | 74%                  | -                    | -                    |
| Probability of Delayed Crossing                     | P <sub>d</sub> 89%    | 96%                  | -                    | -                    |
| Average Gap Delay                                   | d <sub>g</sub> 41.76  | 41.76                | -                    | -                    |
| Non-zero Delay                                      | d <sub>np</sub> 44.79 | 44.79                | -                    | -                    |
| 2027 Buildout Total                                 |                       |                      |                      |                      |
| Probability of Blocked Lane                         | P <sub>b</sub> 74%    | 74%                  | -                    | -                    |
| Probability of Delayed Crossing                     | P <sub>d</sub> 89%    | 93%                  | -                    | -                    |
| Average Gap Delay                                   | d <sub>g</sub> 41.76  | 41.76                | -                    | -                    |
| Non-zero Delay                                      | d <sub>np</sub> 44.79 | 44.79                | -                    | -                    |
| 2032 Buildout Total                                 |                       |                      |                      |                      |
| Probability of Blocked Lane                         | P <sub>b</sub> 79%    | 79%                  | -                    | -                    |
| Probability of Delayed Crossing                     | P <sub>d</sub> 96%    | 96%                  | -                    | -                    |
| Average Gap Delay                                   | d <sub>g</sub> 61.52  | 61.52                | -                    | -                    |
| Non-zero Delay                                      | d <sub>np</sub> 64.75 | 64.75                | -                    | -                    |
| 2034 Buildout Total - Phase 1 AB 2                  |                       |                      |                      |                      |
| Probability of Blocked Lane                         | P <sub>b</sub> 38%    | 38%                  | -                    | -                    |
| Probability of Delayed Crossing                     | P <sub>d</sub> 96%    | 96%                  | -                    | -                    |
| Average Gap Delay                                   | d <sub>g</sub> 6.95   | 6.95                 | -                    | -                    |
| Non-zero Delay                                      | d <sub>np</sub> 7.27  | 7.27                 | -                    | -                    |
| 2034 Buildout Total - Phase 1 AB 3                  |                       |                      |                      |                      |
| Probability of Blocked Lane                         | P <sub>b</sub> 38%    | 38%                  | -                    | -                    |
| Probability of Delayed Crossing                     | P <sub>d</sub> 96%    | 96%                  | -                    | -                    |
| Average Gap Delay                                   | d <sub>g</sub> 6.95   | 6.95                 | -                    | -                    |
| Non-zero Delay                                      | d <sub>np</sub> 7.27  | 7.27                 | -                    | -                    |
| 2034 Buildout Total - Phase 1 AB 4                  |                       |                      |                      |                      |
| Probability of Blocked Lane                         | P <sub>b</sub> 38%    | 38%                  | -                    | -                    |
| Probability of Delayed Crossing                     | P <sub>d</sub> 96%    | 96%                  | -                    | -                    |
| Average Gap Delay                                   | d <sub>g</sub> 6.95   | 6.95                 | -                    | -                    |
| Non-zero Delay                                      | d <sub>np</sub> 7.27  | 7.27                 | -                    | -                    |
| 2021 Buildout Total - Phase 1 AB 1                  |                       |                      |                      |                      |
| Probability of Blocked Lane                         | P <sub>b</sub> 35%    | 35%                  | -                    | -                    |
| Probability of Delayed Crossing                     | P <sub>d</sub> 58%    | 58%                  | -                    | -                    |
| Average Gap Delay                                   | d <sub>g</sub> 5.93   | 5.93                 | -                    | -                    |
| Non-zero Delay                                      | d <sub>np</sub> 10.27 | 10.27                | -                    | -                    |
| 2021 Buildout Total - Phase 1 AB 2                  |                       |                      |                      |                      |
| Probability of Blocked Lane                         | P <sub>b</sub> 35%    | 35%                  | -                    | -                    |
| Probability of Delayed Crossing                     | P <sub>d</sub> 58%    | 58%                  | -                    | -                    |
| Average Gap Delay                                   | d <sub>g</sub> 5.93   | 5.93                 | -                    | -                    |
| Non-zero Delay                                      | d <sub>np</sub> 10.27 | 10.27                | -                    | -                    |
| 2021 Buildout Total - Phase 1 AB 3                  |                       |                      |                      |                      |
| Probability of Blocked Lane                         | P <sub>b</sub> 35%    | 35%                  | -                    | -                    |
| Probability of Delayed Crossing                     | P <sub>d</sub> 58%    | 58%                  | -                    | -                    |
| Average Gap Delay                                   | d <sub>g</sub> 5.93   | 5.93                 | -                    | -                    |
| Non-zero Delay                                      | d <sub>np</sub> 10.27 | 10.27                | -                    | -                    |
| 2021 Buildout Total - Phase 1 AB 4                  |                       |                      |                      |                      |
| Probability of Blocked Lane                         | P <sub>b</sub> 35%    | 35%                  | -                    | -                    |
| Probability of Delayed Crossing                     | P <sub>d</sub> 58%    | 58%                  | -                    | -                    |
| Average Gap Delay                                   | d <sub>g</sub> 5.93   | 5.93                 | -                    | -                    |
| Non-zero Delay                                      | d <sub>np</sub> 10.27 | 10.27                | -                    | -                    |
| 2029 Buildout Total - Phase 3 AB 1                  |                       |                      |                      |                      |
| Probability of Blocked Lane                         | P <sub>b</sub> 44%    | 44%                  | -                    | -                    |
| Probability of Delayed Crossing                     | P <sub>d</sub> 96%    | 96%                  | -                    | -                    |
| Average Gap Delay                                   | d <sub>g</sub> 8.95   | 8.95                 | -                    | -                    |
| Non-zero Delay                                      | d <sub>np</sub> 15.50 | 15.50                | -                    | -                    |
| 2029 Buildout Total - Phase 3 AB 2                  |                       |                      |                      |                      |
| Probability of Blocked Lane                         | P <sub>b</sub> 44%    | 44%                  | -                    | -                    |
| Probability of Delayed Crossing                     | P <sub>d</sub> 96%    | 96%                  | -                    | -                    |
| Average Gap Delay                                   | d <sub>g</sub> 8.95   | 8.95                 | -                    | -                    |
| Non-zero Delay                                      | d <sub>np</sub> 9.36  | 9.36                 | -                    | -                    |
| 2029 Buildout Total - Phase 3 AB 3                  |                       |                      |                      |                      |
| Probability of Blocked Lane                         | P <sub>b</sub> 44%    | 44%                  | -                    | -                    |
| Probability of Delayed Crossing                     | P <sub>d</sub> 96%    | 96%                  | -                    | -                    |
| Average Gap Delay                                   | d <sub>g</sub> 8.95   | 8.95                 | -                    | -                    |
| Non-zero Delay                                      | d <sub>np</sub> 9.36  | 9.36                 | -                    | -                    |
| 2029 Buildout Total - Phase 3 AB 4                  |                       |                      |                      |                      |
| Probability of Blocked Lane                         | P <sub>b</sub> 44%    | 44%                  | -                    | -                    |
| Probability of Delayed Crossing                     | P <sub>d</sub> 96%    | 96%                  | -                    | -                    |
| Average Gap Delay                                   | d <sub>g</sub> 8.95   | 8.95                 | -                    | -                    |
| Non-zero Delay                                      | d <sub>np</sub> 9.36  | 9.36                 | -                    | -                    |
| 2034 Buildout Total - Phase 3 AB 1                  |                       |                      |                      |                      |
| Probability of Blocked Lane                         | P <sub>b</sub> 49%    | 49%                  | -                    | -                    |
| Probability of Delayed Crossing                     | P <sub>d</sub> 74%    | 74%                  | -                    | -                    |
| Average Gap Delay                                   | d <sub>g</sub> 11.43  | 11.43                | -                    | -                    |
| Non-zero Delay                                      | d <sub>np</sub> 15.45 | 15.45                | -                    | -                    |
| 2034 Buildout Total - Phase 3 AB 2                  |                       |                      |                      |                      |
| Probability of Blocked Lane                         | P <sub>b</sub> 49%    | 49%                  | -                    | -                    |
| Probability of Delayed Crossing                     | P <sub>d</sub> 74%    | 74%                  | -                    | -                    |
| Average Gap Delay                                   | d <sub>g</sub> 11.43  | 11.43                | -                    | -                    |
| Non-zero Delay                                      | d <sub>np</sub> 15.45 | 15.45                | -                    | -                    |
| 2034 Buildout Total - Phase 3 AB 3                  |                       |                      |                      |                      |
| Probability of Blocked Lane                         | P <sub>b</sub> 49%    | 49%                  | -                    | -                    |
| Probability of Delayed Crossing                     | P <sub>d</sub> 74%    | 74%                  | -                    | -                    |
| Average Gap Delay                                   | d <sub>g</sub> 11.43  | 11.43                | -                    | -                    |
| Non-zero Delay                                      | d <sub>np</sub> 15.45 | 15.45                | -                    | -                    |
| 2034 Buildout Total - Phase 3 AB 4                  |                       |                      |                      |                      |
| Probability of Blocked Lane                         | P <sub>b</sub> 49%    | 49%                  | -                    | -                    |
| Probability of Delayed Crossing                     | P <sub>d</sub> 74%    | 74%                  | -                    | -                    |
| Average Gap Delay                                   | d <sub>g</sub> 11.43  | 11.43                | -                    | -                    |
| Non-zero Delay                                      | d <sub>np</sub> 23.33 | 23.33                | -                    | -                    |
| 2021 Background Traffic                             |                       |                      |                      |                      |
| Probability of Blocked Lane                         | P <sub>b</sub> 34%    | 34%                  | -                    | -                    |
| Probability of Delayed Crossing                     | P <sub>d</sub> 56%    | 56%                  | -                    | -                    |
| Average Gap Delay                                   | d <sub>g</sub> 5.70   | 5.70                 | -                    | -                    |
| Non-zero Delay                                      | d <sub>np</sub> 16.76 | 16.76                | -                    | -                    |
| 2029 Background Traffic                             |                       |                      |                      |                      |
| Probability of Blocked Lane                         | P <sub>b</sub> 42%    | 42%                  | -                    | -                    |
| Probability of Delayed Crossing                     | P <sub>d</sub> 69%    | 69%                  | -                    | -                    |
| Average Gap Delay                                   | d <sub>g</sub> 8.32   | 8.32                 | -                    | -                    |
| Non-zero Delay                                      | d <sub>np</sub> 19.81 | 19.81                | -                    | -                    |
| 2029 Background Traffic with Superstreet (AB 1 & 3) |                       |                      |                      |                      |
| Probability of Blocked Lane                         | P <sub>b</sub> 37%    | 37%                  | -                    | -                    |
| Probability of Delayed Crossing                     | P <sub>d</sub> 60%    | 60%                  | -                    | -                    |
| Average Gap Delay                                   | d <sub>g</sub> 6.54   | 6.54                 | -                    | -                    |
| Non-zero Delay                                      | d <sub>np</sub> 17.68 | 17.68                | -                    | -                    |
| 2034 Background Traffic                             |                       |                      |                      |                      |
| Probability of Blocked Lane                         | P <sub>b</sub> 45%    | 45%                  | -                    | -                    |
| Probability of Delayed Crossing                     | P <sub>d</sub> 73%    | 73%                  | -                    | -                    |
| Average Gap Delay                                   | d <sub>g</sub> 10.70  | 10.70                | -                    | -                    |
| Non-zero Delay                                      | d <sub>np</sub> 22.29 | 22.29                | -                    | -                    |
| 2034 Background Traffic with Superstreet (AB 1 & 3) |                       |                      |                      |                      |
| Probability of Blocked Lane                         | P <sub>b</sub> 48%    | 48%                  | -                    | -                    |
| Probability of Delayed Crossing                     | P <sub>d</sub> 73%    | 73%                  | -                    | -                    |
| Average Gap Delay                                   | d <sub>g</sub> 10.70  | 10.70                | -                    | -                    |
| Non-zero Delay                                      | d <sub>np</sub> 22.29 | 22.29                | -                    | -                    |

|                                           |         | 2020 Existing Traffic |      |    |    | 2027 Background Traffic |      |    |    | 2027 Buildout Total |      |    |    | 2032 Buildout Total |       |    |    | 2024 Buildout Total - Phase 1 AB 2 |      |    |    | 2024 Buildout Total - Phase 1 AB 3 |      |    |    | 2024 Buildout Total - Phase 1 AB 4 |      |    |    | 2021 Background Traffic |      |    |    |
|-------------------------------------------|---------|-----------------------|------|----|----|-------------------------|------|----|----|---------------------|------|----|----|---------------------|-------|----|----|------------------------------------|------|----|----|------------------------------------|------|----|----|------------------------------------|------|----|----|-------------------------|------|----|----|
|                                           |         | NB                    | SB   | EB | WB | NB                      | SB   | EB | WB | NB                  | SB   | EB | WB | NB                  | SB    | EB | WB | NB                                 | SB   | EB | WB | NB                                 | SB   | EB | WB | NB                                 | SB   | EB | WB | NB                      | SB   | EB | WB |
| Volume                                    | 1 Stage | 684                   | 684  | -  | -  | 956                     | 956  | -  | -  | 956                 | 956  | -  | -  | 1,119               | 1,119 | -  | -  | 343                                | 343  | -  | -  | 343                                | 343  | -  | -  | 343                                | 343  | -  | -  | 286                     | 286  | -  | -  |
|                                           | 2 Stage | -                     | -    | -  | -  | -                       | -    | -  | -  | -                   | -    | -  | -  | -                   | -     | -  | -  | -                                  | -    | -  | -  | -                                  | -    | -  | -  | -                                  | -    | -  | -  | -                       | -    | -  |    |
|                                           | 3 Stage | -                     | -    | -  | -  | -                       | -    | -  | -  | -                   | -    | -  | -  | -                   | -     | -  | -  | -                                  | -    | -  | -  | -                                  | -    | -  | -  | -                                  | -    | -  | -  | -                       | -    | -  |    |
| Conflicting with flow rate (vehicles) (v) |         | 0.19                  | 0.19 | -  | -  | 0.27                    | 0.27 | -  | -  | 0.27                | 0.27 | -  | -  | 0.31                | 0.31  | -  | -  | 0.10                               | 0.10 | -  | -  | 0.10                               | 0.10 | -  | -  | 0.10                               | 0.10 | -  | -  | 0.08                    | 0.08 | -  | -  |
| No. of lanes crossed                      |         | 2                     | 2    | 2  | 2  | 2                       | 2    | 2  | 2  | 2                   | 2    | 2  | 2  | 2                   | 2     | 2  | 2  | 2                                  | 2    | 2  | 2  | 2                                  | 2    | 2  | 2  | 2                                  | 2    | 2  | 2  | 2                       | 2    | 2  |    |

|  |                                           | 2021 Buildout Total - Phase 1 AB 1 |         |      |     | 2021 Buildout Total - Phase 1 AB 2 |      |      |     | 2021 Buildout Total - Phase 1 AB 3 |      |      |     | 2021 Buildout Total - Phase 1 AB 4 |      |      |     | 2029 Buildout Total - Phase 3 AB 1 |      |      |     | 2029 Buildout Total - Phase 3 AB 2 |      |      |     | 2029 Buildout Total - Phase 3 AB 3 |      |      |     | 2029 Buildout Total - Phase 3 AB 4 |      |      |     |   |
|--|-------------------------------------------|------------------------------------|---------|------|-----|------------------------------------|------|------|-----|------------------------------------|------|------|-----|------------------------------------|------|------|-----|------------------------------------|------|------|-----|------------------------------------|------|------|-----|------------------------------------|------|------|-----|------------------------------------|------|------|-----|---|
|  |                                           | NB                                 | SB      | EB   | WB  | NB                                 | SB   | EB   | WB  | NB                                 | SB   | EB   | WB  | NB                                 | SB   | EB   | WB  | NB                                 | SB   | EB   | WB  | NB                                 | SB   | EB   | WB  | NB                                 | SB   | EB   | WB  | NB                                 | SB   | EB   | WB  |   |
|  |                                           | Volume                             | 1 Stage | 305  | 305 | -                                  | -    | 305  | 305 | -                                  | -    | 305  | 305 | -                                  | -    | 305  | 305 | -                                  | -    | 410  | 410 | -                                  | -    | 410  | 410 | -                                  | -    | 410  | 410 | -                                  | -    | 410  | 410 | - |
|  | 2 Stage                                   | -                                  | -       | -    | -   | -                                  | -    | -    | -   | -                                  | -    | -    | -   | -                                  | -    | -    | -   | -                                  | -    | -    | -   | -                                  | -    | -    | -   | -                                  | -    | -    | -   | -                                  | -    | -    | -   |   |
|  | Conflicting with flow rate (vehicles) (v) | 1 Stage                            | 0.08    | 0.08 | -   | -                                  | 0.08 | 0.08 | -   | -                                  | 0.08 | 0.08 | -   | -                                  | 0.08 | 0.08 | -   | -                                  | 0.11 | 0.11 | -   | -                                  | 0.11 | 0.11 | -   | -                                  | 0.11 | 0.11 | -   | -                                  | 0.11 | 0.11 | -   | - |
|  | 2 Stage                                   | -                                  | -       | -    | -   | -                                  | -    | -    | -   | -                                  | -    | -    | -   | -                                  | -    | -    | -   | -                                  | -    | -    | -   | -                                  | -    | -    | -   | -                                  | -    | -    | -   | -                                  | -    | -    | -   |   |
|  | No. of lanes crossed                      |                                    | 2       | 2    | 2   | 2                                  | 2    | 2    | 2   | 2                                  | 2    | 2    | 2   | 2                                  | 2    | 2    | 2   | 2                                  | 2    | 2    | 2   | 2                                  | 2    | 2    | 2   | 2                                  | 2    | 2    | 2   | 2                                  | 2    | 2    | 2   |   |

| Volume                                    |         | 2034 Buildout Total - Phase 3 AB 1 |      |    |     |      |      |    |     | 2034 Buildout Total - Phase 3 AB 2 |      |    |     |      |      |    |     | 2034 Buildout Total - Phase 3 AB 3 |      |    |     |      |      |    |     | 2034 Buildout Total - Phase 3 AB 4 |      |    |     |      |      |    |     | 2029 Background Traffic |      |    |     |      |      |   |   | 2029 Background Traffic with Superstreet (AB 1 & 3) |  |  |  |    |  |  |  | 2034 Background Traffic |  |  |  |    |  |  |  | 2034 Background Traffic with Superstreet (AB 1 & 3) |  |  |  |  |  |  |  |
|-------------------------------------------|---------|------------------------------------|------|----|-----|------|------|----|-----|------------------------------------|------|----|-----|------|------|----|-----|------------------------------------|------|----|-----|------|------|----|-----|------------------------------------|------|----|-----|------|------|----|-----|-------------------------|------|----|-----|------|------|---|---|-----------------------------------------------------|--|--|--|----|--|--|--|-------------------------|--|--|--|----|--|--|--|-----------------------------------------------------|--|--|--|--|--|--|--|
|                                           |         | NB                                 |      |    |     | SB   |      |    |     | NB                                 |      |    |     | SB   |      |    |     | NB                                 |      |    |     | SB   |      |    |     | NB                                 |      |    |     | SB   |      |    |     | NB                      |      |    |     | SB   |      |   |   | NB                                                  |  |  |  | SB |  |  |  | NB                      |  |  |  | SB |  |  |  |                                                     |  |  |  |  |  |  |  |
|                                           |         | EB                                 | WB   | EB | WB  | EB   | WB   | EB | WB  | EB                                 | WB   | EB | WB  | EB   | WB   | EB | WB  | EB                                 | WB   | EB | WB  | EB   | WB   | EB | WB  | EB                                 | WB   | EB | WB  | EB   | WB   | EB | WB  | EB                      | WB   | EB | WB  | EB   | WB   |   |   |                                                     |  |  |  |    |  |  |  |                         |  |  |  |    |  |  |  |                                                     |  |  |  |  |  |  |  |
| 1 Stage                                   | 482     | 482                                | -    | -  | 482 | 482  | -    | -  | 482 | 482                                | -    | -  | 482 | 482  | -    | -  | 482 | 482                                | -    | -  | 390 | 390  | -    | -  | 328 | 328                                | -    | -  | 467 | 467  | -    | -  | 467 | 467                     | -    | -  | 467 | 467  | -    | - |   |                                                     |  |  |  |    |  |  |  |                         |  |  |  |    |  |  |  |                                                     |  |  |  |  |  |  |  |
| 2 Stage                                   | -       | -                                  | -    | -  | -   | -    | -    | -  | -   | -                                  | -    | -  | -   | -    | -    | -  | -   | -                                  | -    | -  | -   | -    | -    | -  | -   | -                                  | -    | -  | -   | -    | -    | -  | -   | -                       | -    | -  | -   | -    | -    | - |   |                                                     |  |  |  |    |  |  |  |                         |  |  |  |    |  |  |  |                                                     |  |  |  |  |  |  |  |
| Conflicting with flow rate (vehicles) (v) | 1 Stage | 0.13                               | 0.13 | -  | -   | 0.13 | 0.13 | -  | -   | 0.13                               | 0.13 | -  | -   | 0.13 | 0.13 | -  | -   | 0.13                               | 0.13 | -  | -   | 0.11 | 0.11 | -  | -   | 0.09                               | 0.09 | -  | -   | 0.13 | 0.13 | -  | -   | 0.13                    | 0.13 | -  | -   | 0.13 | 0.13 | - | - |                                                     |  |  |  |    |  |  |  |                         |  |  |  |    |  |  |  |                                                     |  |  |  |  |  |  |  |
| 2 Stage                                   | -       | -                                  | -    | -  | -   | -    | -    | -  | -   | -                                  | -    | -  | -   | -    | -    | -  | -   | -                                  | -    | -  | -   | -    | -    | -  | -   | -                                  | -    | -  | -   | -    | -    | -  | -   | -                       | -    | -  | -   | -    | -    | - |   |                                                     |  |  |  |    |  |  |  |                         |  |  |  |    |  |  |  |                                                     |  |  |  |  |  |  |  |
| No. of lanes crossed                      |         | 2                                  | 2    | 2  | 2   | 2    | 2    | 2  | 2   | 2                                  | 2    | 2  | 2   | 2    | 2    | 2  | 2   | 2                                  | 2    | 2  | 2   | 2    | 2    | 2  | 2   | 2                                  | 2    | 2  | 2   | 2    | 2    | 2  | 2   | 2                       | 2    | 2  | 2   | 2    | 2    | 2 | 2 |                                                     |  |  |  |    |  |  |  |                         |  |  |  |    |  |  |  |                                                     |  |  |  |  |  |  |  |

| LOS | Control Delay (sec/ped) | Comments                                                                 | From HCM 6 |
|-----|-------------------------|--------------------------------------------------------------------------|------------|
| A   | 5                       | Usually no conflicting traffic                                           |            |
| B   | 15                      | Occasionally some delay due to conflicting traffic                       |            |
| C   | 20                      | Delay noticeable to pedestrians, but not inconveniencing                 |            |
| D   | 30                      | Delay noticeable and irritating, increased likelihood of risk taking     |            |
| E   | 45                      | Delay approaches tolerance level, risk taking behavior likely            |            |
| F   | > 45                    | Delay exceeds tolerance level, high likelihood of pedestrian risk taking |            |

| Results                                            |       |      |      |   |
|----------------------------------------------------|-------|------|------|---|
| 2020 Existing Traffic                              | Delay | 20.8 | 20.8 | - |
|                                                    | LOS   | D    | D    | - |
| 2027 Background Traffic                            | Delay | 41.8 | 41.8 | - |
|                                                    | LOS   | E    | E    | - |
| 2027 Buildout Total                                | Delay | 41.8 | 41.8 | - |
|                                                    | LOS   | E    | E    | - |
| 2032 Buildout Total                                | Delay | 63.9 | 63.9 | - |
|                                                    | LOS   | F    | F    | - |
| 2034 Buildout Total - Phase 1 A&2                  | Delay | 7.0  | 7.0  | - |
|                                                    | LOS   | B    | B    | - |
| 2034 Buildout Total - Phase 1 A&3                  | Delay | 7.0  | 7.0  | - |
|                                                    | LOS   | B    | B    | - |
| 2034 Buildout Total - Phase 1 A&4                  | Delay | 7.0  | 7.0  | - |
|                                                    | LOS   | B    | B    | - |
| 2021 Buildout Total - Phase 1 A&1                  | Delay | 5.9  | 5.9  | - |
|                                                    | LOS   | B    | B    | - |
| 2021 Buildout Total - Phase 1 A&2                  | Delay | 5.9  | 5.9  | - |
|                                                    | LOS   | B    | B    | - |
| 2021 Buildout Total - Phase 1 A&3                  | Delay | 5.9  | 5.9  | - |
|                                                    | LOS   | B    | B    | - |
| 2021 Buildout Total - Phase 1 A&4                  | Delay | 5.9  | 5.9  | - |
|                                                    | LOS   | B    | B    | - |
| 2029 Buildout Total - Phase 3 A&1                  | Delay | 9.0  | 9.0  | - |
|                                                    | LOS   | B    | B    | - |
| 2029 Buildout Total - Phase 3 A&2                  | Delay | 9.0  | 9.0  | - |
|                                                    | LOS   | B    | B    | - |
| 2029 Buildout Total - Phase 3 A&3                  | Delay | 9.0  | 9.0  | - |
|                                                    | LOS   | B    | B    | - |
| 2029 Buildout Total - Phase 3 A&4                  | Delay | 9.0  | 9.0  | - |
|                                                    | LOS   | B    | B    | - |
| 2034 Buildout Total - Phase 3 A&1                  | Delay | 11.4 | 11.4 | - |
|                                                    | LOS   | C    | C    | - |
| 2034 Buildout Total - Phase 3 A&2                  | Delay | 11.4 | 11.4 | - |
|                                                    | LOS   | C    | C    | - |
| 2034 Buildout Total - Phase 3 A&3                  | Delay | 11.4 | 11.4 | - |
|                                                    | LOS   | C    | C    | - |
| 2034 Buildout Total - Phase 3 A&4                  | Delay | 11.4 | 11.4 | - |
|                                                    | LOS   | C    | C    | - |
| 2021 Background Traffic                            | Delay | 5.7  | 5.7  | - |
|                                                    | LOS   | B    | B    | - |
| 2029 Background Traffic                            | Delay | 8.3  | 8.3  | - |
|                                                    | LOS   | B    | B    | - |
| 2034 Background Traffic with Superstreet (A&1 & 3) | Delay | 6.5  | 6.5  | - |
|                                                    | LOS   | B    | B    | - |
| 2034 Background Traffic                            | Delay | 10.7 | 10.7 | - |
|                                                    | LOS   | C    | C    | - |
| 2034 Background Traffic with Superstreet (A&1 & 3) | Delay | 10.7 | 10.7 | - |
|                                                    | LOS   | C    | C    | - |

| Oakspring Road and Access #2                         |                      |                      |                      |                      |  |  |
|------------------------------------------------------|----------------------|----------------------|----------------------|----------------------|--|--|
| PM PEAK HOUR                                         |                      |                      |                      |                      |  |  |
|                                                      | Crossing NB Approach | Crossing SB Approach | Crossing EB Approach | Crossing WB Approach |  |  |
| Major Street (Free Flow)                             | Y                    | Y                    | N                    | N                    |  |  |
| Crosswalk Length (ft)                                | L                    | 25                   | 25                   | 25                   |  |  |
| Walking Speed (ft/sec)                               | S <sub>w</sub>       | 3.5                  | 3.5                  | 3.5                  |  |  |
| Start Up Time                                        | t <sub>u</sub>       | 3                    | 3                    | 3                    |  |  |
| Critical Headway                                     | t <sub>c</sub>       | 10.14                | 10.14                | 10.14                |  |  |
| 2 Stage Crossing? (Median = Y or N)                  | N                    | N                    | N                    | N                    |  |  |
| Yielding Vehicles? (Signage = Y or N)                | N                    | N                    | N                    | N                    |  |  |
| 2020 Existing Traffic                                |                      |                      |                      |                      |  |  |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 53%                  | 53%                  | -                    |  |  |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 78%                  | 78%                  | -                    |  |  |
| Average Gap Delay                                    | d <sub>g</sub>       | 13.67                | 13.67                | -                    |  |  |
| Non-zero Delay                                       | d <sub>net</sub>     | 17.55                | 17.55                | -                    |  |  |
| 2027 Background Traffic                              |                      |                      |                      |                      |  |  |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 68%                  | 68%                  | -                    |  |  |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 90%                  | 90%                  | -                    |  |  |
| Average Gap Delay                                    | d <sub>g</sub>       | 28.15                | 28.15                | -                    |  |  |
| Non-zero Delay                                       | d <sub>net</sub>     | 31.36                | 31.36                | -                    |  |  |
| 2027 Buildout Total                                  |                      |                      |                      |                      |  |  |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 68%                  | 68%                  | -                    |  |  |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 90%                  | 90%                  | -                    |  |  |
| Average Gap Delay                                    | d <sub>g</sub>       | 28.15                | 28.15                | -                    |  |  |
| Non-zero Delay                                       | d <sub>net</sub>     | 31.36                | 31.36                | -                    |  |  |
| 2032 Buildout Total                                  |                      |                      |                      |                      |  |  |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 73%                  | 73%                  | -                    |  |  |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 93%                  | 93%                  | -                    |  |  |
| Average Gap Delay                                    | d <sub>g</sub>       | 38.98                | 38.98                | -                    |  |  |
| Non-zero Delay                                       | d <sub>net</sub>     | 42.05                | 42.05                | -                    |  |  |
| 2024 Buildout Total - Phase 1 Alt 2                  |                      |                      |                      |                      |  |  |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 39%                  | 39%                  | -                    |  |  |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 93%                  | 93%                  | -                    |  |  |
| Average Gap Delay                                    | d <sub>g</sub>       | 7.15                 | 7.15                 | -                    |  |  |
| Non-zero Delay                                       | d <sub>net</sub>     | 7.71                 | 7.71                 | -                    |  |  |
| 2024 Buildout Total - Phase 1 Alt 3                  |                      |                      |                      |                      |  |  |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 39%                  | 39%                  | -                    |  |  |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 93%                  | 93%                  | -                    |  |  |
| Average Gap Delay                                    | d <sub>g</sub>       | 7.15                 | 7.15                 | -                    |  |  |
| Non-zero Delay                                       | d <sub>net</sub>     | 7.71                 | 7.71                 | -                    |  |  |
| 2024 Buildout Total - Phase 1 Alt 4                  |                      |                      |                      |                      |  |  |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 39%                  | 39%                  | -                    |  |  |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 93%                  | 93%                  | -                    |  |  |
| Average Gap Delay                                    | d <sub>g</sub>       | 7.15                 | 7.15                 | -                    |  |  |
| Non-zero Delay                                       | d <sub>net</sub>     | 7.71                 | 7.71                 | -                    |  |  |
| 2021 Buildout Total - Phase 1 Alt 1                  |                      |                      |                      |                      |  |  |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 35%                  | 35%                  | -                    |  |  |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 58%                  | 58%                  | -                    |  |  |
| Average Gap Delay                                    | d <sub>g</sub>       | 6.03                 | 6.03                 | -                    |  |  |
| Non-zero Delay                                       | d <sub>net</sub>     | 10.44                | 10.44                | -                    |  |  |
| 2021 Buildout Total - Phase 1 Alt 2                  |                      |                      |                      |                      |  |  |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 35%                  | 35%                  | -                    |  |  |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 58%                  | 58%                  | -                    |  |  |
| Average Gap Delay                                    | d <sub>g</sub>       | 6.01                 | 6.01                 | -                    |  |  |
| Non-zero Delay                                       | d <sub>net</sub>     | 10.41                | 10.41                | -                    |  |  |
| 2021 Buildout Total - Phase 1 Alt 3                  |                      |                      |                      |                      |  |  |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 35%                  | 35%                  | -                    |  |  |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 58%                  | 58%                  | -                    |  |  |
| Average Gap Delay                                    | d <sub>g</sub>       | 6.01                 | 6.01                 | -                    |  |  |
| Non-zero Delay                                       | d <sub>net</sub>     | 10.41                | 10.41                | -                    |  |  |
| 2021 Buildout Total - Phase 1 Alt 4                  |                      |                      |                      |                      |  |  |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 35%                  | 35%                  | -                    |  |  |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 58%                  | 58%                  | -                    |  |  |
| Average Gap Delay                                    | d <sub>g</sub>       | 6.01                 | 6.01                 | -                    |  |  |
| Non-zero Delay                                       | d <sub>net</sub>     | 10.41                | 10.41                | -                    |  |  |
| 2029 Buildout Total - Phase 3 Alt 1                  |                      |                      |                      |                      |  |  |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 45%                  | 45%                  | -                    |  |  |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 58%                  | 58%                  | -                    |  |  |
| Average Gap Delay                                    | d <sub>g</sub>       | 9.24                 | 9.24                 | -                    |  |  |
| Non-zero Delay                                       | d <sub>net</sub>     | 16.00                | 16.00                | -                    |  |  |
| 2029 Buildout Total - Phase 3 Alt 2                  |                      |                      |                      |                      |  |  |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 45%                  | 45%                  | -                    |  |  |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 93%                  | 93%                  | -                    |  |  |
| Average Gap Delay                                    | d <sub>g</sub>       | 9.24                 | 9.24                 | -                    |  |  |
| Non-zero Delay                                       | d <sub>net</sub>     | 9.97                 | 9.97                 | -                    |  |  |
| 2029 Buildout Total - Phase 3 Alt 3                  |                      |                      |                      |                      |  |  |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 45%                  | 45%                  | -                    |  |  |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 93%                  | 93%                  | -                    |  |  |
| Average Gap Delay                                    | d <sub>g</sub>       | 9.24                 | 9.24                 | -                    |  |  |
| Non-zero Delay                                       | d <sub>net</sub>     | 9.97                 | 9.97                 | -                    |  |  |
| 2029 Buildout Total - Phase 3 Alt 4                  |                      |                      |                      |                      |  |  |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 45%                  | 45%                  | -                    |  |  |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 93%                  | 93%                  | -                    |  |  |
| Average Gap Delay                                    | d <sub>g</sub>       | 9.24                 | 9.24                 | -                    |  |  |
| Non-zero Delay                                       | d <sub>net</sub>     | 9.97                 | 9.97                 | -                    |  |  |
| 2034 Buildout Total - Phase 3 Alt 1                  |                      |                      |                      |                      |  |  |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 50%                  | 50%                  | -                    |  |  |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 75%                  | 75%                  | -                    |  |  |
| Average Gap Delay                                    | d <sub>g</sub>       | 11.88                | 11.88                | -                    |  |  |
| Non-zero Delay                                       | d <sub>net</sub>     | 15.84                | 15.84                | -                    |  |  |
| 2034 Buildout Total - Phase 3 Alt 2                  |                      |                      |                      |                      |  |  |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 50%                  | 50%                  | -                    |  |  |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 75%                  | 75%                  | -                    |  |  |
| Average Gap Delay                                    | d <sub>g</sub>       | 11.88                | 11.88                | -                    |  |  |
| Non-zero Delay                                       | d <sub>net</sub>     | 15.84                | 15.84                | -                    |  |  |
| 2034 Buildout Total - Phase 3 Alt 3                  |                      |                      |                      |                      |  |  |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 50%                  | 50%                  | -                    |  |  |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 75%                  | 75%                  | -                    |  |  |
| Average Gap Delay                                    | d <sub>g</sub>       | 11.88                | 11.88                | -                    |  |  |
| Non-zero Delay                                       | d <sub>net</sub>     | 15.84                | 15.84                | -                    |  |  |
| 2034 Buildout Total - Phase 3 Alt 4                  |                      |                      |                      |                      |  |  |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 50%                  | 50%                  | -                    |  |  |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 75%                  | 75%                  | -                    |  |  |
| Average Gap Delay                                    | d <sub>g</sub>       | 11.88                | 11.88                | -                    |  |  |
| Non-zero Delay                                       | d <sub>net</sub>     | 23.76                | 23.76                | -                    |  |  |
| 2021 Background Traffic                              |                      |                      |                      |                      |  |  |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 34%                  | 34%                  | -                    |  |  |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 56%                  | 56%                  | -                    |  |  |
| Average Gap Delay                                    | d <sub>g</sub>       | 5.77                 | 5.77                 | -                    |  |  |
| Non-zero Delay                                       | d <sub>net</sub>     | 16.97                | 16.97                | -                    |  |  |
| 2029 Background Traffic                              |                      |                      |                      |                      |  |  |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 43%                  | 43%                  | -                    |  |  |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 68%                  | 68%                  | -                    |  |  |
| Average Gap Delay                                    | d <sub>g</sub>       | 8.42                 | 8.42                 | -                    |  |  |
| Non-zero Delay                                       | d <sub>net</sub>     | 19.58                | 19.58                | -                    |  |  |
| 2029 Background Traffic with Superstreet (Alt 1 & 3) |                      |                      |                      |                      |  |  |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 43%                  | 43%                  | -                    |  |  |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 68%                  | 68%                  | -                    |  |  |
| Average Gap Delay                                    | d <sub>g</sub>       | 8.42                 | 8.42                 | -                    |  |  |
| Non-zero Delay                                       | d <sub>net</sub>     | 19.58                | 19.58                | -                    |  |  |
| 2034 Background Traffic                              |                      |                      |                      |                      |  |  |
| Probability of Blocked Lane                          | P <sub>b</sub>       | 48%                  | 48%                  | -                    |  |  |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | 73%                  | 73%                  | -                    |  |  |

|                                         |         | 2020 Existing Traffic |      |    |    | 2027 Background Traffic |      |    |    | 2027 Buildout Total |      |    |    | 2032 Buildout Total |      |    |    | 2024 Buildout Total - Phase 1 Alt 2 |      |    |    | 2024 Buildout Total - Phase 1 Alt 3 |      |    |    | 2024 Buildout Total - Phase 1 Alt 4 |      |    |    | 2021 Background Traffic |      |  |  |
|-----------------------------------------|---------|-----------------------|------|----|----|-------------------------|------|----|----|---------------------|------|----|----|---------------------|------|----|----|-------------------------------------|------|----|----|-------------------------------------|------|----|----|-------------------------------------|------|----|----|-------------------------|------|--|--|
|                                         |         | NB                    | SB   | EB | WB | NB                      | SB   | EB | WB | NB                  | SB   | EB | WB | NB                  | SB   | EB | WB | NB                                  | SB   | EB | WB | NB                                  | SB   | EB | WB | NB                                  | SB   | EB | WB |                         |      |  |  |
| Volume                                  | 1 Stage | 539                   | 539  | -  | -  | 799                     | 799  | -  | -  | 799                 | 799  | -  | -  | 928                 | 928  | -  | -  | 350                                 | 350  | -  | -  | 350                                 | 350  | -  | -  | 350                                 | 350  | -  | -  | 299                     | 299  |  |  |
|                                         | 2 Stage | -                     | -    | -  | -  | -                       | -    | -  | -  | -                   | -    | -  | -  | -                   | -    | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                       | -    |  |  |
| Conflicting veh flow rate (veh/sec) (v) | 1 Stage | 0.15                  | 0.15 | -  | -  | 0.22                    | 0.22 | -  | -  | 0.22                | 0.22 | -  | -  | 0.26                | 0.26 | -  | -  | 0.10                                | 0.10 | -  | -  | 0.10                                | 0.10 | -  | -  | 0.10                                | 0.10 | -  | -  | 0.08                    | 0.08 |  |  |
|                                         | 2 Stage | -                     | -    | -  | -  | -                       | -    | -  | -  | -                   | -    | -  | -  | -                   | -    | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                       | -    |  |  |
| No. of lanes crossed                    |         | 2                     | 2    | 2  | 2  | 2                       | 2    | 2  | 2  | 2                   | 2    | 2  | 2  | 2                   | 2    | 2  | 2  | 2                                   | 2    | 2  | 2  | 2                                   | 2    | 2  | 2  | 2                                   | 2    | 2  | 2  | 2                       | 2    |  |  |

|                                         |         | 2021 Buildout Total - Phase 1 Alt 1 |      |    |    | 2021 Buildout Total - Phase 1 Alt 2 |      |    |    | 2021 Buildout Total - Phase 1 Alt 3 |      |    |    | 2021 Buildout Total - Phase 1 Alt 4 |      |    |    | 2029 Buildout Total - Phase 3 Alt 1 |      |    |    | 2029 Buildout Total - Phase 3 Alt 2 |      |    |    | 2029 Buildout Total - Phase 3 Alt 3 |      |    |    | 2029 Buildout Total - Phase 3 Alt 4 |      |    |    |
|-----------------------------------------|---------|-------------------------------------|------|----|----|-------------------------------------|------|----|----|-------------------------------------|------|----|----|-------------------------------------|------|----|----|-------------------------------------|------|----|----|-------------------------------------|------|----|----|-------------------------------------|------|----|----|-------------------------------------|------|----|----|
|                                         |         | NB                                  | SB   | EB | WB | NB                                  | SB   | EB | WB | NB                                  | SB   | EB | WB | NB                                  | SB   | EB | WB | NB                                  | SB   | EB | WB | NB                                  | SB   | EB | WB | NB                                  | SB   | EB | WB | NB                                  | SB   | EB | WB |
| Volume                                  | 1 Stage | 308                                 | 308  | -  | -  | 308                                 | 308  | -  | -  | 308                                 | 308  | -  | -  | 308                                 | 308  | -  | -  | 419                                 | 419  | -  | -  | 419                                 | 419  | -  | -  | 419                                 | 419  | -  | -  | 419                                 | 419  | -  | -  |
|                                         | 2 Stage | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  |    |
| Conflicting veh flow rate (veh/sec) (v) | 1 Stage | 0.09                                | 0.09 | -  | -  | 0.09                                | 0.09 | -  | -  | 0.09                                | 0.09 | -  | -  | 0.09                                | 0.09 | -  | -  | 0.12                                | 0.12 | -  | -  | 0.12                                | 0.12 | -  | -  | 0.12                                | 0.12 | -  | -  | 0.12                                | 0.12 | -  | -  |
|                                         | 2 Stage | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  |    |
| No. of lanes crossed                    |         | 2                                   | 2    | 2  | 2  | 2                                   | 2    | 2  | 2  | 2                                   | 2    | 2  | 2  | 2                                   | 2    | 2  | 2  | 2                                   | 2    | 2  | 2  | 2                                   | 2    | 2  | 2  | 2                                   | 2    | 2  | 2  | 2                                   | 2    | 2  |    |

|                                         |         | 2034 Buildout Total - Phase 3 Alt 1 |      |    |    | 2034 Buildout Total - Phase 3 Alt 2 |      |    |    | 2034 Buildout Total - Phase 3 Alt 3 |      |    |    | 2034 Buildout Total - Phase 3 Alt 4 |      |    |    | 2029 Background Traffic |      |     |     | 2029 Background Traffic with Superstreet (Alt 1 & 3) |      |    |    | 2034 Background Traffic |      |    |    | 2034 Background Traffic with Superstreet (Alt 1 & 3) |      |    |    |
|-----------------------------------------|---------|-------------------------------------|------|----|----|-------------------------------------|------|----|----|-------------------------------------|------|----|----|-------------------------------------|------|----|----|-------------------------|------|-----|-----|------------------------------------------------------|------|----|----|-------------------------|------|----|----|------------------------------------------------------|------|----|----|
|                                         |         | NB                                  | SB   | EB | WB | NB                                  | SB   | EB | WB | NB                                  | SB   | EB | WB | NB                                  | SB   | EB | WB | NB                      | SB   | EB  | WB  | NB                                                   | SB   | EB | WB | NB                      | SB   | EB | WB | NB                                                   | SB   | EB | WB |
| Volume                                  | 1 Stage | 494                                 | 494  | -  | -  | 494                                 | 494  | -  | -  | 494                                 | 494  | -  | -  | 494                                 | 494  | -  | -  | 393                     | 393  | 393 | 393 | 393                                                  | 393  | -  | -  | 468                     | 468  | -  | -  | 468                                                  | 468  | -  | -  |
|                                         | 2 Stage | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                                   | -    | -  | -  | -                       | -    | -   | -   | -                                                    | -    | -  | -  | -                       | -    | -  | -  | -                                                    | -    | -  | -  |
| Conflicting veh flow rate (veh/sec) (v) |         | 0.14                                | 0.14 | -  | -  | 0.14                                | 0.14 | -  | -  | 0.14                                | 0.14 | -  | -  | 0.14                                | 0.14 | -  | -  | 0.11                    | 0.11 | -   | -   | 0.11                                                 | 0.11 | -  | -  | 0.13                    | 0.13 | -  | -  | 0.13                                                 | 0.13 | -  | -  |
| No. of lanes crossed                    |         | 2                                   | 2    | 2  | 2  | 2                                   | 2    | 2  | 2  | 2                                   | 2    | 2  | 2  | 2                                   | 2    | 2  | 2  | 2                       | 2    | 2   | 2   | 2                                                    | 2    | 2  | 2  | 2                       | 2    | 2  | 2  | 2                                                    | 2    | 2  | 2  |

| Sweet Birch Drive and Access #3                     |                      |                      |                      |                      |       |
|-----------------------------------------------------|----------------------|----------------------|----------------------|----------------------|-------|
| AM PEAK HOUR                                        |                      |                      |                      |                      |       |
|                                                     | Crossing NB Approach | Crossing SB Approach | Crossing EB Approach | Crossing WB Approach |       |
| Major Street (Front Flow)                           |                      |                      |                      |                      |       |
| Crosswalk Length (ft)                               | L                    | 0                    | 25                   | 25                   | 25    |
| Walking Speed (ft/sec)                              | S <sub>w</sub>       | 3.5                  | 3.5                  | 3.5                  | 3.5   |
| Start Up Time                                       | t <sub>s</sub>       | 3                    | 3                    | 3                    | 3     |
| Critical Headway                                    | t <sub>h</sub>       | 3.00                 | 10.14                | 10.14                | 10.14 |
| 1 Stage Crossing? (Median > Y or N)                 | N                    | N                    | N                    | N                    | N     |
| Yielding Vehicles? (Supergate < Y or N)             | N                    | N                    | N                    | N                    | N     |
| 2020 Existing Traffic                               |                      |                      |                      |                      |       |
| Probability of Blocked Lane                         | P <sub>b</sub>       | -                    | -                    | 10%                  | 10%   |
| Probability of Delayed Crossing                     | P <sub>d</sub>       | -                    | -                    | 19%                  | 19%   |
| Average Gap Delay                                   | d <sub>g</sub>       | -                    | -                    | 1.15                 | 1.15  |
| Non-zero Delay                                      | d <sub>nz</sub>      | -                    | -                    | 6.05                 | 6.05  |
| 2027 Background Traffic                             |                      |                      |                      |                      |       |
| Probability of Blocked Lane                         | P <sub>b</sub>       | -                    | -                    | 13%                  | 13%   |
| Probability of Delayed Crossing                     | P <sub>d</sub>       | -                    | -                    | 24%                  | 24%   |
| Average Gap Delay                                   | d <sub>g</sub>       | -                    | -                    | 1.49                 | 1.49  |
| Non-zero Delay                                      | d <sub>nz</sub>      | -                    | -                    | 6.13                 | 6.13  |
| 2027 Buildout Total                                 |                      |                      |                      |                      |       |
| Probability of Blocked Lane                         | P <sub>b</sub>       | -                    | -                    | 13%                  | 13%   |
| Probability of Delayed Crossing                     | P <sub>d</sub>       | -                    | -                    | 24%                  | 24%   |
| Average Gap Delay                                   | d <sub>g</sub>       | -                    | -                    | 1.49                 | 1.49  |
| Non-zero Delay                                      | d <sub>nz</sub>      | -                    | -                    | 6.13                 | 6.13  |
| 2032 Buildout Total                                 |                      |                      |                      |                      |       |
| Probability of Blocked Lane                         | P <sub>b</sub>       | -                    | -                    | 15%                  | 15%   |
| Probability of Delayed Crossing                     | P <sub>d</sub>       | -                    | -                    | 28%                  | 28%   |
| Average Gap Delay                                   | d <sub>g</sub>       | -                    | -                    | 1.82                 | 1.82  |
| Non-zero Delay                                      | d <sub>nz</sub>      | -                    | -                    | 6.56                 | 6.56  |
| 2034 Buildout Total - Phase 1 AR 2                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                         | P <sub>b</sub>       | -                    | -                    | 28%                  | 28%   |
| Probability of Delayed Crossing                     | P <sub>d</sub>       | -                    | -                    | 28%                  | 28%   |
| Average Gap Delay                                   | d <sub>g</sub>       | -                    | -                    | 4.28                 | 4.28  |
| Non-zero Delay                                      | d <sub>nz</sub>      | -                    | -                    | 15.42                | 15.42 |
| 2034 Buildout Total - Phase 1 AR 3                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                         | P <sub>b</sub>       | -                    | -                    | 28%                  | 28%   |
| Probability of Delayed Crossing                     | P <sub>d</sub>       | -                    | -                    | 28%                  | 28%   |
| Average Gap Delay                                   | d <sub>g</sub>       | -                    | -                    | 4.28                 | 4.28  |
| Non-zero Delay                                      | d <sub>nz</sub>      | -                    | -                    | 15.42                | 15.42 |
| 2034 Buildout Total - Phase 1 AR 4                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                         | P <sub>b</sub>       | -                    | -                    | 28%                  | 28%   |
| Probability of Delayed Crossing                     | P <sub>d</sub>       | -                    | -                    | 28%                  | 28%   |
| Average Gap Delay                                   | d <sub>g</sub>       | -                    | -                    | 4.28                 | 4.28  |
| Non-zero Delay                                      | d <sub>nz</sub>      | -                    | -                    | 15.42                | 15.42 |
| 2021 Buildout Total - Phase 1 AR 1                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                         | P <sub>b</sub>       | -                    | -                    | 26%                  | 26%   |
| Probability of Delayed Crossing                     | P <sub>d</sub>       | -                    | -                    | 45%                  | 45%   |
| Average Gap Delay                                   | d <sub>g</sub>       | -                    | -                    | 3.80                 | 3.80  |
| Non-zero Delay                                      | d <sub>nz</sub>      | -                    | -                    | 8.40                 | 8.40  |
| 2021 Buildout Total - Phase 1 AR 2                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                         | P <sub>b</sub>       | -                    | -                    | 26%                  | 26%   |
| Probability of Delayed Crossing                     | P <sub>d</sub>       | -                    | -                    | 45%                  | 45%   |
| Average Gap Delay                                   | d <sub>g</sub>       | -                    | -                    | 3.80                 | 3.80  |
| Non-zero Delay                                      | d <sub>nz</sub>      | -                    | -                    | 8.40                 | 8.40  |
| 2021 Buildout Total - Phase 1 AR 3                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                         | P <sub>b</sub>       | -                    | -                    | 26%                  | 26%   |
| Probability of Delayed Crossing                     | P <sub>d</sub>       | -                    | -                    | 45%                  | 45%   |
| Average Gap Delay                                   | d <sub>g</sub>       | -                    | -                    | 3.80                 | 3.80  |
| Non-zero Delay                                      | d <sub>nz</sub>      | -                    | -                    | 8.40                 | 8.40  |
| 2021 Buildout Total - Phase 1 AR 4                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                         | P <sub>b</sub>       | -                    | -                    | 26%                  | 26%   |
| Probability of Delayed Crossing                     | P <sub>d</sub>       | -                    | -                    | 45%                  | 45%   |
| Average Gap Delay                                   | d <sub>g</sub>       | -                    | -                    | 3.80                 | 3.80  |
| Non-zero Delay                                      | d <sub>nz</sub>      | -                    | -                    | 8.40                 | 8.40  |
| 2029 Buildout Total - Phase 3 AR 1                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                         | P <sub>b</sub>       | -                    | -                    | 33%                  | 33%   |
| Probability of Delayed Crossing                     | P <sub>d</sub>       | -                    | -                    | 45%                  | 45%   |
| Average Gap Delay                                   | d <sub>g</sub>       | -                    | -                    | 5.37                 | 5.37  |
| Non-zero Delay                                      | d <sub>nz</sub>      | -                    | -                    | 11.87                | 11.87 |
| 2029 Buildout Total - Phase 3 AR 2                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                         | P <sub>b</sub>       | -                    | -                    | 33%                  | 33%   |
| Probability of Delayed Crossing                     | P <sub>d</sub>       | -                    | -                    | 28%                  | 28%   |
| Average Gap Delay                                   | d <sub>g</sub>       | -                    | -                    | 5.37                 | 5.37  |
| Non-zero Delay                                      | d <sub>nz</sub>      | -                    | -                    | 19.35                | 19.35 |
| 2029 Buildout Total - Phase 3 AR 3                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                         | P <sub>b</sub>       | -                    | -                    | 33%                  | 33%   |
| Probability of Delayed Crossing                     | P <sub>d</sub>       | -                    | -                    | 28%                  | 28%   |
| Average Gap Delay                                   | d <sub>g</sub>       | -                    | -                    | 5.37                 | 5.37  |
| Non-zero Delay                                      | d <sub>nz</sub>      | -                    | -                    | 19.35                | 19.35 |
| 2029 Buildout Total - Phase 3 AR 4                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                         | P <sub>b</sub>       | -                    | -                    | 33%                  | 33%   |
| Probability of Delayed Crossing                     | P <sub>d</sub>       | -                    | -                    | 28%                  | 28%   |
| Average Gap Delay                                   | d <sub>g</sub>       | -                    | -                    | 5.37                 | 5.37  |
| Non-zero Delay                                      | d <sub>nz</sub>      | -                    | -                    | 19.35                | 19.35 |
| 2034 Buildout Total - Phase 3 AR 1                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                         | P <sub>b</sub>       | -                    | -                    | 38%                  | 38%   |
| Probability of Delayed Crossing                     | P <sub>d</sub>       | -                    | -                    | 62%                  | 62%   |
| Average Gap Delay                                   | d <sub>g</sub>       | -                    | -                    | 6.73                 | 6.73  |
| Non-zero Delay                                      | d <sub>nz</sub>      | -                    | -                    | 10.93                | 10.93 |
| 2034 Buildout Total - Phase 3 AR 2                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                         | P <sub>b</sub>       | -                    | -                    | 38%                  | 38%   |
| Probability of Delayed Crossing                     | P <sub>d</sub>       | -                    | -                    | 62%                  | 62%   |
| Average Gap Delay                                   | d <sub>g</sub>       | -                    | -                    | 6.73                 | 6.73  |
| Non-zero Delay                                      | d <sub>nz</sub>      | -                    | -                    | 10.93                | 10.93 |
| 2034 Buildout Total - Phase 3 AR 3                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                         | P <sub>b</sub>       | -                    | -                    | 38%                  | 38%   |
| Probability of Delayed Crossing                     | P <sub>d</sub>       | -                    | -                    | 62%                  | 62%   |
| Average Gap Delay                                   | d <sub>g</sub>       | -                    | -                    | 6.73                 | 6.73  |
| Non-zero Delay                                      | d <sub>nz</sub>      | -                    | -                    | 10.93                | 10.93 |
| 2034 Buildout Total - Phase 3 AR 4                  |                      |                      |                      |                      |       |
| Probability of Blocked Lane                         | P <sub>b</sub>       | -                    | -                    | 38%                  | 38%   |
| Probability of Delayed Crossing                     | P <sub>d</sub>       | -                    | -                    | 62%                  | 62%   |
| Average Gap Delay                                   | d <sub>g</sub>       | -                    | -                    | 6.73                 | 6.73  |
| Non-zero Delay                                      | d <sub>nz</sub>      | -                    | -                    | 17.71                | 17.71 |
| 2021 Background Traffic                             |                      |                      |                      |                      |       |
| Probability of Blocked Lane                         | P <sub>b</sub>       | -                    | -                    | 26%                  | 26%   |
| Probability of Delayed Crossing                     | P <sub>d</sub>       | -                    | -                    | 45%                  | 45%   |
| Average Gap Delay                                   | d <sub>g</sub>       | -                    | -                    | 3.80                 | 3.80  |
| Non-zero Delay                                      | d <sub>nz</sub>      | -                    | -                    | 14.62                | 14.62 |
| 2029 Background Traffic                             |                      |                      |                      |                      |       |
| Probability of Blocked Lane                         | P <sub>b</sub>       | -                    | -                    | 33%                  | 33%   |
| Probability of Delayed Crossing                     | P <sub>d</sub>       | -                    | -                    | 45%                  | 45%   |
| Average Gap Delay                                   | d <sub>g</sub>       | -                    | -                    | 5.37                 | 5.37  |
| Non-zero Delay                                      | d <sub>nz</sub>      | -                    | -                    | 16.27                | 16.27 |
| 2029 Background Traffic with Superstreet (AR 1 & 3) |                      |                      |                      |                      |       |
| Probability of Blocked Lane                         | P <sub>b</sub>       | -                    | -                    | 28%                  | 28%   |
| Probability of Delayed Crossing                     | P <sub>d</sub>       | -                    | -                    | 46%                  | 46%   |
| Average Gap Delay                                   | d <sub>g</sub>       | -                    | -                    | 4.28                 | 4.28  |
| Non-zero Delay                                      | d <sub>nz</sub>      | -                    | -                    | 15.29                | 15.29 |
| 2034 Background Traffic                             |                      |                      |                      |                      |       |
| Probability of Blocked Lane                         | P <sub>b</sub>       | -                    | -                    | 38%                  | 38%   |
| Probability of Delayed Crossing                     | P <sub>d</sub>       | -                    | -                    | 62%                  | 62%   |
| Average Gap Delay                                   | d <sub>g</sub>       | -                    | -                    | 6.73                 | 6.73  |
| Non-zero Delay                                      | d <sub>nz</sub>      | -                    | -                    | 17.71                | 17.71 |
| 2034 Background Traffic with Superstreet (AR 1 & 3) |                      |                      |                      |                      |       |
| Probability of Blocked Lane                         | P <sub>b</sub>       | -                    | -                    | 38%                  | 38%   |
| Probability of Delayed Crossing                     | P <sub>d</sub>       | -                    | -                    | 62%                  | 62%   |
| Average Gap Delay                                   | d <sub>g</sub>       | -                    | -                    | 6.73                 | 6.73  |
| Non-zero Delay                                      | d <sub>nz</sub>      | -                    | -                    | 17.71                | 17.71 |

|                                           |         | 2020 Existing Traffic |    |    | 2027 Background Traffic |    |    | 2027 Buildout Total |    |    | 2032 Buildout Total |    |    | 2034 Buildout Total - Phase 1 AR 2 |    |    | 2034 Buildout Total - Phase 1 AR 3 |    |    | 2034 Buildout Total - Phase 1 AR 4 |    |    | 2021 Background Traffic |    |    |
|-------------------------------------------|---------|-----------------------|----|----|-------------------------|----|----|---------------------|----|----|---------------------|----|----|------------------------------------|----|----|------------------------------------|----|----|------------------------------------|----|----|-------------------------|----|----|
|                                           |         | NB                    | SB | EB | WB                      | NB | SB | EB                  | WB | NB | SB                  | EB | WB | NB                                 | SB | EB | WB                                 | NB | SB | EB                                 | WB | NB | SB                      | EB | WB |
| Volume                                    | B       | -                     | -  | -  | -                       | -  | -  | -                   | -  | -  | -                   | -  | -  | -                                  | -  | -  | -                                  | -  | -  | -                                  | -  | -  | -                       | -  | -  |
|                                           | 1 Stage | -                     | -  | -  | -                       | -  | -  | -                   | -  | -  | -                   | -  | -  | -                                  | -  | -  | -                                  | -  | -  | -                                  | -  | -  | -                       | -  | -  |
|                                           | 2 Stage | -                     | -  | -  | -                       | -  | -  | -                   | -  | -  | -                   | -  | -  | -                                  | -  | -  | -                                  | -  | -  | -                                  | -  | -  | -                       | -  | -  |
| Conflicting with flow rate (vehicles) (v) |         | -                     | -  | -  | -                       | -  | -  | -                   | -  | -  | -                   | -  | -  | -                                  | -  | -  | -                                  | -  | -  | -                                  | -  | -  | -                       | -  | -  |
| No. of lanes crossed                      |         | 2                     | 2  | 2  | 2                       | 2  | 2  | 2                   | 2  | 2  | 2                   | 2  | 2  | 2                                  | 2  | 2  | 2                                  | 2  | 2  | 2                                  | 2  | 2  | 2                       | 2  | 2  |

|                                           |         | 2021 Buildout Total - Phase 1 AR 1 |    |    | 2021 Buildout Total - Phase 1 AR 2 |    |    | 2021 Buildout Total - Phase 1 AR 3 |    |    | 2021 Buildout Total - Phase 1 AR 4 |    |    | 2029 Buildout Total - Phase 1 AR 1 |    |    | 2029 Buildout Total - Phase 1 AR 2 |    |    | 2029 Buildout Total - Phase 1 AR 3 |    |    | 2029 Buildout Total - Phase 1 AR 4 |    |    |
|-------------------------------------------|---------|------------------------------------|----|----|------------------------------------|----|----|------------------------------------|----|----|------------------------------------|----|----|------------------------------------|----|----|------------------------------------|----|----|------------------------------------|----|----|------------------------------------|----|----|
|                                           |         | NB                                 | SB | EB | WB                                 | NB | SB | EB                                 | WB | NB | SB                                 | EB | WB | NB                                 | SB | EB | WB                                 | NB | SB | EB                                 | WB | NB | SB                                 | EB | WB |
| Volume                                    | 1 Stage | -                                  | -  | -  | -                                  | -  | -  | -                                  | -  | -  | -                                  | -  | -  | -                                  | -  | -  | -                                  | -  | -  | -                                  | -  | -  | -                                  | -  | -  |
|                                           | 2 Stage | -                                  | -  | -  | -                                  | -  | -  | -                                  | -  | -  | -                                  | -  | -  | -                                  | -  | -  | -                                  | -  | -  | -                                  | -  | -  | -                                  | -  | -  |
| Conflicting with flow rate (vehicles) (v) |         | -                                  | -  | -  | -                                  | -  | -  | -                                  | -  | -  | -                                  | -  | -  | -                                  | -  | -  | -                                  | -  | -  | -                                  | -  | -  | -                                  | -  | -  |
| No. of lanes crossed                      |         | 2                                  | 2  | 2  | 2                                  | 2  | 2  | 2                                  | 2  | 2  | 2                                  | 2  | 2  | 2                                  | 2  | 2  | 2                                  | 2  | 2  | 2                                  | 2  | 2  | 2                                  | 2  | 2  |

|                                           |         | 2034 Buildout Total - Phase 3 AR 1 |    |      |      | 2034 Buildout Total - Phase 3 AR 2 |    |      |      | 2034 Buildout Total - Phase 3 AR 3 |    |      |      | 2034 Buildout Total - Phase 3 AR 4 |    |      |      | 2029 Background Traffic |    |      |      | 2029 Background Traffic with Superstreet (AR 1 & 3) |    |      |      | 2034 Background Traffic |    |      |      | 2034 Background Traffic with Superstreet (AR 1 & 3) |  |  |  |
|-------------------------------------------|---------|------------------------------------|----|------|------|------------------------------------|----|------|------|------------------------------------|----|------|------|------------------------------------|----|------|------|-------------------------|----|------|------|-----------------------------------------------------|----|------|------|-------------------------|----|------|------|-----------------------------------------------------|--|--|--|
|                                           |         | NB                                 | SB | EB   | WB   | NB                                 | SB | EB   | WB   | NB                                 | SB | EB   | WB   | NB                                 | SB | EB   | WB   | NB                      | SB | EB   | WB   | NB                                                  | SB | EB   | WB   | NB                      | SB | EB   | WB   |                                                     |  |  |  |
| Volume                                    | 1 Stage | -                                  | -  | 330  | 330  | -                                  | -  | 330  | 330  | -                                  | -  | 330  | 330  | -                                  | -  | 330  | 330  | -                       | -  | 330  | 330  | -                                                   | -  | 330  | 330  | -                       | -  | 330  | 330  |                                                     |  |  |  |
|                                           | 2 Stage | -                                  | -  | -    | -    | -                                  | -  | -    | -    | -                                  | -  | -    | -    | -                                  | -  | -    | -    | -                       | -  | -    | -    | -                                                   | -  | -    | -    | -                       | -  | -    | -    |                                                     |  |  |  |
| Conflicting with flow rate (vehicles) (v) |         | -                                  | -  | 0.09 | 0.09 | -                                  | -  | 0.09 | 0.09 | -                                  | -  | 0.09 | 0.09 | -                                  | -  | 0.09 | 0.09 | -                       | -  | 0.09 | 0.09 | -                                                   | -  | 0.09 | 0.09 | -                       | -  | 0.09 | 0.09 |                                                     |  |  |  |
| No. of lanes crossed                      |         | 2                                  | 2  | 2    | 2    | 2                                  | 2  | 2    | 2    | 2                                  | 2  | 2    | 2    | 2                                  | 2  | 2    | 2    | 2                       | 2  | 2    | 2    | 2                                                   | 2  | 2    | 2    | 2                       | 2  | 2    | 2    |                                                     |  |  |  |

| LOS | Control Delay (sec/pt) | Comments                                                                 | From HCM 6 |
|-----|------------------------|--------------------------------------------------------------------------|------------|
| A   | 5                      | Usually no conflicting traffic                                           |            |
| B   | 15                     | Occasionally some delay due to conflicting traffic                       |            |
| C   | 20                     | Delay noticeable to pedestrians, but not inconveniencing                 |            |
| D   | 30                     | Delay noticeable and irritating, increased likelihood of risk taking     |            |
| E   | 45                     | Delay approaches tolerance level, risk taking behavior likely            |            |
| F   | > 45                   | Delay exceeds tolerance level, high likelihood of pedestrian risk taking |            |

| Results                                             |                                        |
|-----------------------------------------------------|----------------------------------------|
| 2020 Existing Traffic                               | Delay - - - 1.2 1.2<br>LOS - - - A A A |
| 2027 Background Traffic                             | Delay - - - 1.5 1.5<br>LOS - - - A A A |
| 2027 Buildout Total                                 | Delay - - - 1.5 1.5<br>LOS - - - A A A |
| 2032 Buildout Total                                 | Delay - - - 1.8 1.8<br>LOS - - - A A A |
| 2034 Buildout Total - Phase 1 AR 2                  | Delay - - - 4.3 4.3<br>LOS - - - A A A |
| 2034 Buildout Total - Phase 1 AR 3                  | Delay - - - 4.3 4.3<br>LOS - - - A A A |
| 2034 Buildout Total - Phase 1 AR 4                  | Delay - - - 4.3 4.3<br>LOS - - - A A A |
| 2021 Buildout Total - Phase 1 AR 1                  | Delay - - - 3.8 3.8<br>LOS - - - A A A |
| 2021 Buildout Total - Phase 1 AR 2                  | Delay - - - 3.8 3.8<br>LOS - - - A A A |
| 2021 Buildout Total - Phase 1 AR 3                  | Delay - - - 3.8 3.8<br>LOS - - - A A A |
| 2021 Buildout Total - Phase 1 AR 4                  | Delay - - - 3.8 3.8<br>LOS - - - A A A |
| 2029 Buildout Total - Phase 3 AR 1                  | Delay - - - 5.4 5.4<br>LOS - - - B B B |
| 2029 Buildout Total - Phase 3 AR 2                  | Delay - - - 5.4 5.4<br>LOS - - - B B B |
| 2029 Buildout Total - Phase 3 AR 3                  | Delay - - - 5.4 5.4<br>LOS - - - B B B |
| 2029 Buildout Total - Phase 3 AR 4                  | Delay - - - 5.4 5.4<br>LOS - - - B B B |
| 2034 Buildout Total - Phase 3 AR 1                  | Delay - - - 6.7 6.7<br>LOS - - - B B B |
| 2034 Buildout Total - Phase 3 AR 2                  | Delay - - - 6.7 6.7<br>LOS - - - B B B |
| 2034 Buildout Total - Phase 3 AR 3                  | Delay - - - 6.7 6.7<br>LOS - - - B B B |
| 2034 Buildout Total - Phase 3 AR 4                  | Delay - - - 6.7 6.7<br>LOS - - - B B B |
| 2021 Background Traffic                             | Delay - - - 3.8 3.8<br>LOS - - - A A A |
| 2029 Background Traffic                             | Delay - - - 5.4 5.4<br>LOS - - - B B B |
| 2029 Background Traffic with Superstreet (AR 1 & 3) | Delay - - - 4.3 4.3<br>LOS - - - A A A |
| 2034 Background Traffic                             | Delay - - - 6.7 6.7<br>LOS - - - B B B |
| 2034 Background Traffic with Superstreet (AR 1 & 3) | Delay - - - 6.7 6.7<br>LOS - - - B B B |

| Sweet Birch Drive and Access #3                      |                      |                      |                      |                      |
|------------------------------------------------------|----------------------|----------------------|----------------------|----------------------|
| PM PEAK HOUR                                         |                      |                      |                      |                      |
|                                                      | Crossing NB Approach | Crossing SB Approach | Crossing EB Approach | Crossing WB Approach |
| Major Street (Free Flow)                             | N                    | N                    | Y                    | Y                    |
| Crosswalk Length (ft)                                | L                    | -                    | -                    | -                    |
| Walking Speed (ft/sec)                               | S <sub>w</sub>       | 3.5                  | 3.5                  | 3.5                  |
| Start Up Time                                        | t <sub>s</sub>       | 3                    | 3                    | 3                    |
| Critical Headway                                     | t <sub>c</sub>       | 3.00                 | 10.14                | 10.14                |
|                                                      |                      |                      |                      |                      |
| 2 Stage Crossing? (Median > Y or N)                  | N                    | N                    | N                    | N                    |
| Yielding Vehicles? (Signage > Y or N)                | N                    | N                    | N                    | N                    |
| 2020 Existing Traffic                                |                      |                      |                      |                      |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | 13%                  | 13%                  |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | 24%                  | 24%                  |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | 1.59                 | 1.59                 |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | 6.54                 | 6.54                 |
| 2027 Background Traffic                              |                      |                      |                      |                      |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | 16%                  | 16%                  |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | 29%                  | 29%                  |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | 2.07                 | 2.07                 |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | 7.03                 | 7.03                 |
| 2027 Buildout Total                                  |                      |                      |                      |                      |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | 16%                  | 16%                  |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | 29%                  | 29%                  |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | 2.07                 | 2.07                 |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | 7.03                 | 7.03                 |
| 2032 Buildout Total                                  |                      |                      |                      |                      |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | 19%                  | 19%                  |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | 34%                  | 34%                  |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | 2.54                 | 2.54                 |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | 7.39                 | 7.39                 |
| 2024 Buildout Total - Phase 1 Alt 2                  |                      |                      |                      |                      |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | 27%                  | 27%                  |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | 34%                  | 34%                  |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | 3.91                 | 3.91                 |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | 11.37                | 11.37                |
| 2024 Buildout Total - Phase 1 Alt 3                  |                      |                      |                      |                      |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | 27%                  | 27%                  |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | 34%                  | 34%                  |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | 3.91                 | 3.91                 |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | 11.37                | 11.37                |
| 2024 Buildout Total - Phase 1 Alt 4                  |                      |                      |                      |                      |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | 27%                  | 27%                  |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | 34%                  | 34%                  |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | 3.91                 | 3.91                 |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | 11.37                | 11.37                |
| 2021 Buildout Total - Phase 1 Alt 1                  |                      |                      |                      |                      |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | 24%                  | 24%                  |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | 42%                  | 42%                  |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | 3.44                 | 3.44                 |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | 8.14                 | 8.14                 |
| 2021 Buildout Total - Phase 1 Alt 2                  |                      |                      |                      |                      |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | 24%                  | 24%                  |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | 42%                  | 42%                  |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | 3.44                 | 3.44                 |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | 8.14                 | 8.14                 |
| 2021 Buildout Total - Phase 1 Alt 3                  |                      |                      |                      |                      |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | 24%                  | 24%                  |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | 42%                  | 42%                  |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | 3.44                 | 3.44                 |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | 8.14                 | 8.14                 |
| 2021 Buildout Total - Phase 1 Alt 4                  |                      |                      |                      |                      |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | 24%                  | 24%                  |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | 42%                  | 42%                  |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | 3.44                 | 3.44                 |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | 8.14                 | 8.14                 |
| 2029 Buildout Total - Phase 3 Alt 1                  |                      |                      |                      |                      |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | 31%                  | 31%                  |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | 42%                  | 42%                  |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | 4.84                 | 4.84                 |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | 11.46                | 11.46                |
| 2029 Buildout Total - Phase 3 Alt 2                  |                      |                      |                      |                      |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | 31%                  | 31%                  |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | 34%                  | 34%                  |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | 4.84                 | 4.84                 |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | 14.07                | 14.07                |
| 2029 Buildout Total - Phase 3 Alt 3                  |                      |                      |                      |                      |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | 31%                  | 31%                  |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | 34%                  | 34%                  |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | 4.84                 | 4.84                 |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | 14.07                | 14.07                |
| 2029 Buildout Total - Phase 3 Alt 4                  |                      |                      |                      |                      |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | 31%                  | 31%                  |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | 34%                  | 34%                  |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | 4.84                 | 4.84                 |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | 14.07                | 14.07                |
| 2034 Buildout Total - Phase 3 Alt 1                  |                      |                      |                      |                      |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | 35%                  | 35%                  |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | 58%                  | 58%                  |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | 6.06                 | 6.06                 |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | 10.49                | 10.49                |
| 2034 Buildout Total - Phase 3 Alt 2                  |                      |                      |                      |                      |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | 35%                  | 35%                  |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | 58%                  | 58%                  |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | 6.06                 | 6.06                 |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | 10.49                | 10.49                |
| 2034 Buildout Total - Phase 3 Alt 3                  |                      |                      |                      |                      |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | 35%                  | 35%                  |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | 58%                  | 58%                  |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | 6.06                 | 6.06                 |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | 10.49                | 10.49                |
| 2034 Buildout Total - Phase 3 Alt 4                  |                      |                      |                      |                      |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | 35%                  | 35%                  |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | 58%                  | 58%                  |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | 6.06                 | 6.06                 |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | 17.31                | 17.31                |
| 2021 Background Traffic                              |                      |                      |                      |                      |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | 24%                  | 24%                  |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | 42%                  | 42%                  |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | 3.44                 | 3.44                 |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | 14.33                | 14.33                |
| 2029 Background Traffic                              |                      |                      |                      |                      |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | 31%                  | 31%                  |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | 52%                  | 52%                  |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | 4.84                 | 4.84                 |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | 15.61                | 15.61                |
| 2029 Background Traffic with Superstreet (Alt 1 & 3) |                      |                      |                      |                      |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | 31%                  | 31%                  |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | 52%                  | 52%                  |
| Average Gap Delay                                    | d <sub>g</sub>       | -                    | 4.84                 | 4.84                 |
| Non-zero Delay                                       | d <sub>net</sub>     | -                    | 15.61                | 15.61                |
| 2034 Background Traffic                              |                      |                      |                      |                      |
| Probability of Blocked Lane                          | P <sub>b</sub>       | -                    | 35%                  | 35%                  |
| Probability of Delayed Crossing                      | P <sub>d</sub>       | -                    | 58%                  | 58%                  |

|                      |                                         | 2020 Existing Traffic |    |    |      | 2027 Background Traffic |    |    |      | 2027 Buildout Total |    |    |      | 2032 Buildout Total |    |    |      | 2024 Buildout Total -<br>Phase 1 Alt 2 |    |    |      | 2024 Buildout Total -<br>Phase 1 Alt 3 |    |    |      | 2024 Buildout Total -<br>Phase 1 Alt 4 |    |    |      | 2021 Background Traffic |    |    |    |
|----------------------|-----------------------------------------|-----------------------|----|----|------|-------------------------|----|----|------|---------------------|----|----|------|---------------------|----|----|------|----------------------------------------|----|----|------|----------------------------------------|----|----|------|----------------------------------------|----|----|------|-------------------------|----|----|----|
|                      |                                         | NB                    | SB | EB | WB   | NB                      | SB | EB | WB   | NB                  | SB | EB | WB   | NB                  | SB | EB | WB   | NB                                     | SB | EB | WB   | NB                                     | SB | EB | WB   | NB                                     | SB | EB | WB   | NB                      | SB | EB | WB |
| Volume               | 1 Stage                                 | -                     | -  | -  | 101  | 101                     | -  | -  | 126  | 126                 | -  | -  | 126  | 126                 | -  | -  | 153  | 153                                    | -  | -  | 220  | 220                                    | -  | -  | 220  | 220                                    | -  | -  | 196  | 196                     | -  | -  | -  |
|                      | 2 Stage                                 | -                     | -  | -  | -    | -                       | -  | -  | -    | -                   | -  | -  | -    | -                   | -  | -  | -    | -                                      | -  | -  | -    | -                                      | -  | -  | -    | -                                      | -  | -  | -    | -                       | -  | -  |    |
|                      | Conflicting veh flow rate (veh/sec) (v) | 1 Stage               | -  | -  | 0.03 | 0.03                    | -  | -  | 0.04 | 0.04                | -  | -  | 0.04 | 0.04                | -  | -  | 0.04 | 0.04                                   | -  | -  | 0.06 | 0.06                                   | -  | -  | 0.06 | 0.06                                   | -  | -  | 0.06 | 0.06                    | -  | -  | -  |
|                      |                                         | 2 Stage               | -  | -  | -    | -                       | -  | -  | -    | -                   | -  | -  | -    | -                   | -  | -  | -    | -                                      | -  | -  | -    | -                                      | -  | -  | -    | -                                      | -  | -  | -    | -                       | -  | -  |    |
| No. of lanes crossed |                                         | 2                     | 2  | 2  | 2    | 2                       | 2  | 2  | 2    | 2                   | 2  | 2  | 2    | 2                   | 2  | 2  | 2    | 2                                      | 2  | 2  | 2    | 2                                      | 2  | 2  | 2    | 2                                      | 2  | 2  | 2    | 2                       | 2  | 2  |    |

|                                         |         | 2021 Buildout Total - Phase 1 Alt 1 |    |      |      | 2021 Buildout Total - Phase 1 Alt 2 |    |      |      | 2021 Buildout Total - Phase 1 Alt 3 |    |      |      | 2021 Buildout Total - Phase 1 Alt 4 |    |      |      | 2029 Buildout Total - Phase 3 Alt 1 |    |      |      | 2029 Buildout Total - Phase 3 Alt 2 |    |      |      | 2029 Buildout Total - Phase 3 Alt 3 |    |      |      | 2029 Buildout Total - Phase 3 Alt 4 |    |      |      |     |
|-----------------------------------------|---------|-------------------------------------|----|------|------|-------------------------------------|----|------|------|-------------------------------------|----|------|------|-------------------------------------|----|------|------|-------------------------------------|----|------|------|-------------------------------------|----|------|------|-------------------------------------|----|------|------|-------------------------------------|----|------|------|-----|
|                                         |         | NB                                  | SB | EB   | WB   | NB                                  | SB | EB   | WB   | NB                                  | SB | EB   | WB   | NB                                  | SB | EB   | WB   | NB                                  | SB | EB   | WB   | NB                                  | SB | EB   | WB   | NB                                  | SB | EB   | WB   | NB                                  | SB | EB   | WB   |     |
| Volume                                  | 1 Stage | -                                   | -  | -    | 198  | 198                                 | -  | -    | 198  | 198                                 | -  | -    | 198  | 198                                 | -  | -    | 198  | 198                                 | -  | -    | 261  | 261                                 | -  | -    | 261  | 261                                 | -  | -    | 261  | 261                                 | -  | -    | 261  | 261 |
|                                         | 2 Stage | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                                   | -  | -    | -    |     |
| Conflicting veh flow rate (veh/sec) (v) | 1 Stage | -                                   | -  | 0.06 | 0.06 | -                                   | -  | 0.06 | 0.06 | -                                   | -  | 0.06 | 0.06 | -                                   | -  | 0.06 | 0.06 | -                                   | -  | 0.07 | 0.07 | -                                   | -  | 0.07 | 0.07 | -                                   | -  | 0.07 | 0.07 | -                                   | -  | 0.07 | 0.07 |     |
|                                         | 2 Stage | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                                   | -  | -    | -    |     |
| No. of lanes crossed                    |         | 2                                   | 2  | 2    | 2    | 2                                   | 2  | 2    | 2    | 2                                   | 2  | 2    | 2    | 2                                   | 2  | 2    | 2    | 2                                   | 2  | 2    | 2    | 2                                   | 2  | 2    | 2    | 2                                   | 2  | 2    | 2    | 2                                   | 2  | 2    | 2    |     |

|                      |                                         | 2034 Buildout Total - Phase 3 Alt 1 |    |    |      | 2034 Buildout Total - Phase 3 Alt 2 |    |      |      | 2034 Buildout Total - Phase 3 Alt 3 |    |      |      | 2034 Buildout Total - Phase 3 Alt 4 |    |      |      | 2029 Background Traffic |    |      |      | 2029 Background Traffic with Superstreet (Alt 1 & 3) |    |      |      | 2034 Background Traffic with Superstreet (Alt 1 & 3) |    |      |      | 2034 Background Traffic with Superstreet (Alt 1 & 3) |  |  |  |
|----------------------|-----------------------------------------|-------------------------------------|----|----|------|-------------------------------------|----|------|------|-------------------------------------|----|------|------|-------------------------------------|----|------|------|-------------------------|----|------|------|------------------------------------------------------|----|------|------|------------------------------------------------------|----|------|------|------------------------------------------------------|--|--|--|
|                      |                                         | NB                                  | SB | EB | WB   | NB                                  | SB | EB   | WB   | NB                                  | SB | EB   | WB   | NB                                  | SB | EB   | WB   | NB                      | SB | EB   | WB   | NB                                                   | SB | EB   | WB   | NB                                                   | SB | EB   | WB   |                                                      |  |  |  |
| Volume               | 1 Stage                                 | -                                   | -  | -  | 310  | 310                                 | -  | -    | 310  | 310                                 | -  | -    | 310  | 310                                 | -  | -    | 310  | 310                     | -  | -    | 261  | 261                                                  | -  | -    | 261  | 261                                                  | -  | -    | 310  | 310                                                  |  |  |  |
|                      | 2 Stage                                 | -                                   | -  | -  | -    | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                       | -  | -    | -    | -                                                    | -  | -    | -    | -                                                    | -  | -    | -    |                                                      |  |  |  |
|                      | Conflicting veh flow rate (veh/sec) (v) | 1 Stage                             | -  | -  | 0.09 | -                                   | -  | 0.09 | 0.09 | -                                   | -  | 0.09 | 0.09 | -                                   | -  | 0.09 | 0.09 | -                       | -  | 0.07 | 0.07 | -                                                    | -  | 0.07 | 0.07 | -                                                    | -  | 0.09 | 0.09 |                                                      |  |  |  |
| No. of lanes crossed | 2 Stage                                 | -                                   | -  | -  | -    | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                                   | -  | -    | -    | -                       | -  | -    | -    | -                                                    | -  | -    | -    | -                                                    | -  | -    | -    |                                                      |  |  |  |
|                      |                                         | 2                                   | 2  | 2  | 2    | 2                                   | 2  | 2    | 2    | 2                                   | 2  | 2    | 2    | 2                                   | 2  | 2    | 2    | 2                       | 2  | 2    | 2    | 2                                                    | 2  | 2    | 2    | 2                                                    | 2  | 2    | 2    |                                                      |  |  |  |

| LOS | Control Delay (sec/pd) | Comments                                                                 | From HCM 6 |
|-----|------------------------|--------------------------------------------------------------------------|------------|
| A   | 5                      | Usually no conflicting traffic                                           |            |
| B   | 10                     | Occasionally some delay due to conflicting traffic                       |            |
| C   | 20                     | Delay noticeable to pedestrians, but not inconveniencing                 |            |
| D   | 30                     | Delay noticeable and irritating, increased likelihood of risk taking     |            |
| E   | 45                     | Delay approaches tolerance level, risk-taking behavior likely            |            |
| F   | > 45                   | Delay exceeds tolerance level, high likelihood of pedestrian risk taking |            |

| Results                                              |       |   |   |     |     |
|------------------------------------------------------|-------|---|---|-----|-----|
| 2020 Existing Traffic                                | Delay | - | - | 1.6 | 1.6 |
|                                                      | LOS   | - | - | A   | A   |
| 2027 Background Traffic                              | Delay | - | - | 2.1 | 2.1 |
|                                                      | LOS   | - | - | A   | A   |
| 2027 Buildout Total                                  | Delay | - | - | 2.1 | 2.1 |
|                                                      | LOS   | - | - | A   | A   |
| 2032 Buildout Total                                  | Delay | - | - | 2.5 | 2.5 |
|                                                      | LOS   | - | - | A   | A   |
| 2024 Buildout Total - Phase 1 Alt 2                  | Delay | - | - | 3.9 | 3.9 |
|                                                      | LOS   | - | - | A   | A   |
| 2024 Buildout Total - Phase 1 Alt 3                  | Delay | - | - | 3.9 | 3.9 |
|                                                      | LOS   | - | - | A   | A   |
| 2024 Buildout Total - Phase 1 Alt 4                  | Delay | - | - | 3.9 | 3.9 |
|                                                      | LOS   | - | - | A   | A   |
| 2021 Buildout Total - Phase 1 Alt 1                  | Delay | - | - | 3.4 | 3.4 |
|                                                      | LOS   | - | - | A   | A   |
| 2021 Buildout Total - Phase 1 Alt 2                  | Delay | - | - | 3.4 | 3.4 |
|                                                      | LOS   | - | - | A   | A   |
| 2021 Buildout Total - Phase 1 Alt 3                  | Delay | - | - | 3.4 | 3.4 |
|                                                      | LOS   | - | - | A   | A   |
| 2021 Buildout Total - Phase 1 Alt 4                  | Delay | - | - | 3.4 | 3.4 |
|                                                      | LOS   | - | - | A   | A   |
| 2029 Buildout Total - Phase 3 Alt 1                  | Delay | - | - | 4.8 | 4.8 |
|                                                      | LOS   | - | - | A   | A   |
| 2029 Buildout Total - Phase 3 Alt 2                  | Delay | - | - | 4.8 | 4.8 |
|                                                      | LOS   | - | - | A   | A   |
| 2029 Buildout Total - Phase 3 Alt 3                  | Delay | - | - | 4.8 | 4.8 |
|                                                      | LOS   | - | - | A   | A   |
| 2029 Buildout Total - Phase 3 Alt 4                  | Delay | - | - | 4.8 | 4.8 |
|                                                      | LOS   | - | - | A   | A   |
| 2034 Buildout Total - Phase 3 Alt 1                  | Delay | - | - | 6.1 | 6.1 |
|                                                      | LOS   | - | - | B   | B   |
| 2034 Buildout Total - Phase 3 Alt 2                  | Delay | - | - | 6.1 | 6.1 |
|                                                      | LOS   | - | - | B   | B   |
| 2034 Buildout Total - Phase 3 Alt 3                  | Delay | - | - | 6.1 | 6.1 |
|                                                      | LOS   | - | - | B   | B   |
| 2034 Buildout Total - Phase 3 Alt 4                  | Delay | - | - | 6.1 | 6.1 |
|                                                      | LOS   | - | - | B   | B   |
| 2021 Background Traffic                              | Delay | - | - | 3.4 | 3.4 |
|                                                      | LOS   | - | - | A   | A   |
| 2029 Background Traffic                              | Delay | - | - | 4.8 | 4.8 |
|                                                      | LOS   | - | - | A   | A   |
| 2029 Background Traffic with Superstreet (Alt 1 & 2) | Delay | - | - | 4.8 | 4.8 |
|                                                      | LOS   | - | - | A   | A   |
| 2034 Background Traffic                              | Delay | - | - | 6.1 | 6.1 |
|                                                      | LOS   | - | - | B   | B   |
| 2034 Background Traffic with Superstreet (Alt 1 & 2) | Delay | - | - | 6.1 | 6.1 |
|                                                      | LOS   | - | - | B   | B   |

## Bicycle LOS Calculations



Intersection: Stallings Rd at Stevens Mill Rd  
Date: 9/8/2020

Select points from Tables 1-6 on the left hand side of spreadsheet and enter the numerical value into the appropriate YELLOW highlighted cells on the right. Spreadsheet calculates approach leg BIKE LOS and overall intersection BIKE LOS.

|                       | NS Approach | SB Approach | EB Approach | WB Approach |
|-----------------------|-------------|-------------|-------------|-------------|
| Approach Total:       | 25          | 25          | 25          | 25          |
| Approach LOS:         | E           | E           | E           | E           |
| Intersection Average: | 25          |             |             |             |
| Intersection LOS:     | F           |             |             |             |

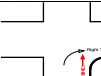
BICYCLE LEVEL OF SERVICE Worksheet  
(to be used for Signalized Intersections)

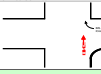
Intersection: Sidings Rd at Stevens Mill Rd (Future)  
Date: 6/8/2020

Select points from Tables 1-4 on the left hand side of spreadsheet and enter the numerical value into the appropriate YELLOW highlighted cells on the right. Spreadsheet calculates approach by BMD LOS and overall intersection BMD LOS.

| Table 1.                                                                                                                                                                              | NB Approach   | SB Approach   | EB Approach   | WB Approach   |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|---------------|---------------|---------------|
| SIGNAL FEATURES                                                                                                                                                                       | Condition 101 | Condition 101 | Condition 101 | Condition 101 |
| <b>A. Auto Left Turn Phase (opposing cyclists)</b>                                                                                                                                    |               |               |               |               |
|                                                                                                      |               |               |               |               |
| <ul style="list-style-type: none"><li>Made on Green Ball only</li><li>Made on Leading Green Arrow/Green Ball</li><li>Made on Green Arrow Only</li><li>No Left Turn Conflict</li></ul> | 0             | 0             | 0             | 0             |
| Table 1A - POINTS                                                                                                                                                                     | 0             | 0             | 0             | 0             |
| <b>B. STOP BAR LOCATION</b>                                                                                                                                                           |               |               |               |               |
|                                                                                                      |               |               |               |               |
| <ul style="list-style-type: none"><li>Shared stop bar for bikes &amp; autos</li><li>Advanced stop bar for bikes or bike box</li></ul>                                                 | 0             | 0             | 0             | 0             |
| Table 1B - POINTS                                                                                                                                                                     | 0             | 0             | 0             | 0             |
| Table 1 - POINTS                                                                                                                                                                      | 0             | 0             | 0             | 0             |

| Table 2.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | NB Approach   | SB Approach   | EB Approach   | WB Approach   |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|---------------|---------------|---------------|
| Bicycle Travel Way                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Condition 101 | Condition 101 | Condition 101 | Condition 101 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |               |               |               |               |
| <b>Bike Transits in Approach/Departure Lane</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |               |               |               |               |
| <ul style="list-style-type: none"><li>Shared Auto Lane to Shared Auto Lane (lane &lt; 12' wide)</li><li>Shared Auto Lane (lane &lt; 12' wide) to Wide Curb Lane (lane &lt; 12' wide)</li><li>Shared Auto Lane (lane &lt; 12' wide) to Bike Lane</li><li>Shared Wide Curb Lane (12' to 14' wide) to Shared Auto Lane (lane &lt; 12' wide)</li><li>Shared Wide Curb Lane (lane &lt; 12' wide) to Wide Curb Lane (lane &lt; 12' wide)</li><li>Shared Wide Curb Lane (lane &lt; 12' wide) to Bike Lane</li><li>Bike Lane to Shared Auto Lane (lane &lt; 12' wide)</li><li>Bike Lane to Wide Curb Lane (12' to 14' wide)</li><li>Bike Lane to Bike Lane</li></ul> | 5             | 5             | 5             | 5             |
| Table 2 - POINTS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 5             | 5             | 5             | 5             |

| Table 3.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | NB Approach   | SB Approach   | EB Approach   | WB Approach   |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|---------------|---------------|---------------|
| Right Turn Conflicts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Condition 101 | Condition 101 | Condition 101 | Condition 101 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |               |               |               |               |
| <ul style="list-style-type: none"><li>No Conflict with Right Turning Motorist (e.g., "T" intersection, one-way street)</li><li>Bike in Shared Thru-Right Lane<ul style="list-style-type: none"><li>Bike lane drops prior to intersection</li><li>Bike lane extends to intersection</li></ul></li><li>Separate Right Turn Lane Provided (see Figure below)<ul style="list-style-type: none"><li>Condition A in Figure below</li><li>Condition B in Figure below</li><li>Condition C in Figure below</li><li>Condition D in Figure below</li><li>Condition E in Figure below</li></ul></li></ul> | 0             | 0             | 0             | 0             |
| Table 3 - POINTS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 0             | 0             | 0             | 0             |

| Table 4.                                                                                                        | NB Approach   | SB Approach   | EB Approach   | WB Approach   |
|-----------------------------------------------------------------------------------------------------------------|---------------|---------------|---------------|---------------|
| Right Turn on Red Conflict                                                                                      | Condition 101 | Condition 101 | Condition 101 | Condition 101 |
|                              |               |               |               |               |
| <ul style="list-style-type: none"><li>Allowed</li><li>Prohibited (or there is no right turn conflict)</li></ul> | 0             | 0             | 0             | 0             |
| Table 4 - POINTS                                                                                                | 0             | 0             | 0             | 0             |

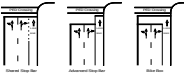
| Table 5.                                                                                                                                                              | NB Approach   | SB Approach   | EB Approach   | WB Approach   |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|---------------|---------------|---------------|
| Intersection Crossing Distance for the approach                                                                                                                       | Condition 101 | Condition 101 | Condition 101 | Condition 101 |
|                                                                                    |               |               |               |               |
| <ul style="list-style-type: none"><li>&lt; 3 motor vehicle travel lanes</li><li>4 to 5 motor vehicle travel lanes</li><li>&gt; 5 motor vehicle travel lanes</li></ul> | 0             | 0             | 0             | 0             |
| Table 5 - POINTS                                                                                                                                                      | 0             | 0             | 0             | 0             |
| Approach Total                                                                                                                                                        | 10            | 10            | 10            | 10            |
| Approach LOS                                                                                                                                                          | F             | F             | F             | F             |
| Intersection Average                                                                                                                                                  | 10            | 10            | 10            | 10            |
| Intersection LOS                                                                                                                                                      | F             | F             | F             | F             |



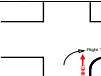
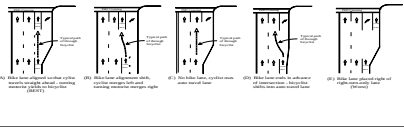
BICYCLE LEVEL OF SERVICE Worksheet  
(to be used for Signalized Intersections)

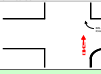
Intersection: **Stallings Rd at Stevens Mill Rd (improvement)**  
Date: **6/8/2025**

Select points from Tables 1-4 on the left hand side of spreadsheet and enter the numerical value into the appropriate YELLOW highlighted cells on the right. Spreadsheet calculates approach by BIKELOS and overall intersection BIKELOS.

| Table 1.                                                                                                                                                                              | NB Approach        | SB Approach      | EB Approach      | WB Approach      |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|------------------|------------------|------------------|
| SIGNAL FEATURES                                                                                                                                                                       | Stallings Rd       | Stallings Rd     | Stevens Mill Rd  | Stevens Mill Rd  |
| <b>A. Auto Left Turn Phase (opposing cyclists)</b>                                                                                                                                    |                    |                  |                  |                  |
|                                                                                                      |                    |                  |                  |                  |
| <ul style="list-style-type: none"><li>Made on Green Ball only</li><li>Made on Leading Green Arrow/Green Ball</li><li>Made on Green Arrow Only</li><li>No Left Turn Conflict</li></ul> | 0<br>5<br>15<br>15 | 0<br>0<br>0<br>0 | 0<br>0<br>0<br>0 | 0<br>0<br>0<br>0 |
| Table 1A - POINTS                                                                                                                                                                     | 0                  | 0                | 0                | 0                |
| <b>B. STOP BAR LOCATION</b>                                                                                                                                                           |                    |                  |                  |                  |
|                                                                                                      |                    |                  |                  |                  |
| <ul style="list-style-type: none"><li>Shared stop bar for bikes &amp; autos</li><li>Advanced stop bar for bikes or bike box</li></ul>                                                 | 0<br>10            | 0<br>0<br>0<br>0 | 0<br>0<br>0<br>0 | 0<br>0<br>0<br>0 |
| Table 1B - POINTS                                                                                                                                                                     | 0                  | 0                | 0                | 0                |
| Table 1 - POINTS                                                                                                                                                                      | 0                  | 0                | 0                | 0                |

| Table 2.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | NB Approach                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | SB Approach      | EB Approach      | WB Approach      |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|------------------|------------------|
| Bicycle Travel Way                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Stallings Rd                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Stallings Rd     | Stevens Mill Rd  | Stevens Mill Rd  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                  |                  |                  |
| <b>Bike Transitions in Approach/Departure Lane</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                  |                  |                  |
| <ul style="list-style-type: none"><li>Shared Auto Lane to Shared Auto Lane (lane &lt; 12' wide)</li><li>Shared Auto Lane (lane &lt; 12' wide) to Wide Curb Lane (lane &lt; 12' wide)</li><li>Shared Auto Lane (lane &lt; 12' wide) to Bike Lane</li><li>Shared Wide Curb Lane (12' to 14' wide) to Shared Auto Lane (lane &lt; 12' wide)</li><li>Shared Wide Curb Lane (lane &lt; 12' wide) to Wide Curb Lane (lane &lt; 12' wide)</li><li>Shared Wide Curb Lane (lane &lt; 12' wide) to Bike Lane</li><li>Bike Lane to Shared Auto Lane (lane &lt; 12' wide)</li><li>Bike Lane to Wide Curb Lane (12' to 14' wide)</li><li>Bike Lane to Bike Lane</li></ul> | 0-40 mph<br>30 to 35 mph<br>< 30 mph<br>5<br>30<br>50<br>2-40 mph<br>30 to 35 mph<br>< 30 mph<br>20<br>40<br>55<br>2-40 mph<br>30 to 35 mph<br>< 30 mph<br>35<br>50<br>60<br>2-40 mph<br>30 to 35 mph<br>< 30 mph<br>15<br>25<br>50<br>2-40 mph<br>30 to 35 mph<br>< 30 mph<br>30<br>50<br>60<br>2-40 mph<br>30 to 35 mph<br>< 30 mph<br>45<br>60<br>70<br>2-40 mph<br>30 to 35 mph<br>< 30 mph<br>30<br>45<br>55<br>2-40 mph<br>30 to 35 mph<br>< 30 mph<br>40<br>55<br>65<br>2-40 mph<br>30 to 35 mph<br>< 30 mph<br>60<br>70<br>80 | 5<br>5<br>5<br>5 | 5<br>5<br>5<br>5 | 5<br>5<br>5<br>5 |
| Table 2 - POINTS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 5                | 5                | 5                |

| Table 3.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | NB Approach                                              | SB Approach  | EB Approach     | WB Approach     |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|--------------|-----------------|-----------------|
| Right Turn Conflicts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Stallings Rd                                             | Stallings Rd | Stevens Mill Rd | Stevens Mill Rd |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                          |              |                 |                 |
| <ul style="list-style-type: none"><li>No Conflict with Right Turning Motorist (e.g., "T" intersection, one-way street)</li><li>Bike in Shared Thru-Right Lane<ul style="list-style-type: none"><li>Bike lane drops prior to intersection</li><li>Bike lane extends to intersection</li></ul></li><li>Separate Right Turn Lane Provided (see Figure below)<ul style="list-style-type: none"><li>Bike lane to left of right turn lane</li><li>Conflict in Figure below</li><li>Curb lane becomes right turn lane, bike lane left of curb lane</li><li>No bike lane</li><li>Conflict in Figure below</li><li>Curb lane becomes right turn lane, no bike lane</li><li>Figure 3 in PED &amp; BIKELOS Methodology</li><li>Bike lane right of right turn lane</li><li>Figure 4 in PED &amp; BIKELOS Methodology</li></ul></li></ul> | 15<br>0<br>-5<br>0<br>10<br>0<br>0<br>0<br>0<br>0<br>-20 | 0<br>0       | 0<br>0          | 0<br>0          |
| <b>Bike Transitions in a Right Turn Lane</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                          |              |                 |                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                          |              |                 |                 |
| Table 3 - POINTS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 0                                                        | 0            | 0               | 0               |

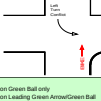
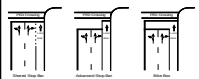
| Table 5.                                                                                                        | NB Approach  | SB Approach      | EB Approach      | WB Approach      |
|-----------------------------------------------------------------------------------------------------------------|--------------|------------------|------------------|------------------|
| Right Turn on Red Conflict                                                                                      | Stallings Rd | Stallings Rd     | Stevens Mill Rd  | Stevens Mill Rd  |
|                              |              |                  |                  |                  |
| <ul style="list-style-type: none"><li>Allowed</li><li>Prohibited (or there is no right turn conflict)</li></ul> | 0<br>5       | 5<br>5<br>5<br>5 | 5<br>5<br>5<br>5 | 5<br>5<br>5<br>5 |
| Table 5 - POINTS                                                                                                | 5            | 5                | 5                | 5                |

| Table 6.                                                                                                                                                              | NB Approach    | SB Approach  | EB Approach     | WB Approach     |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|--------------|-----------------|-----------------|
| Intersection Crossing Distance for the approach                                                                                                                       | Stallings Rd   | Stallings Rd | Stevens Mill Rd | Stevens Mill Rd |
| <ul style="list-style-type: none"><li>&lt; 3 motor vehicle travel lanes</li><li>4 to 5 motor vehicle travel lanes</li><li>&gt; 5 motor vehicle travel lanes</li></ul> | 0<br>-5<br>-10 | 0<br>0<br>0  | 0<br>0<br>0     | -5<br>-5<br>-5  |
| Table 6 - POINTS                                                                                                                                                      | 0              | 0            | 0               | -5              |
| <b>Approach Total Approach LOS</b>                                                                                                                                    | 10<br>F        | 10<br>F      | 10<br>F         | 5<br>F          |
| <b>Intersection Average Intersection LOS</b>                                                                                                                          | 9<br>F         |              |                 |                 |

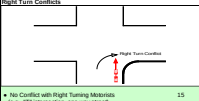
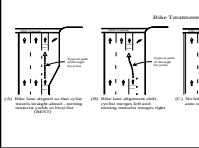
**BICYCLE LEVEL OF SERVICE Worksheet**  
(to be used for Signalized Intersections)

Intersection: **Stallings Road and Sweet Birch Drive**  
Date: **6/8/2025**

Select points from Tables 1-4 on the left hand side of spreadsheet and enter the numerical value into the appropriate YELLOW highlighted cells on the right. Spreadsheet calculates approach by BIKELCLOS and overall intersection BIKELCLOS.

| Table 1.                                                                                                                                                                              | NB Approach           | SB Approach           | EB Approach | WB Approach              |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-------------|--------------------------|
| <b>SIGNAL FEATURES</b>                                                                                                                                                                | <b>Stallings Road</b> | <b>Stallings Road</b> |             | <b>Sweet Birch Drive</b> |
| <b>A. Auto Left Turn Phase (opposing cyclists)</b>                                                                                                                                    |                       |                       |             |                          |
|                                                                                                      |                       |                       |             |                          |
| <ul style="list-style-type: none"><li>Made on Green Ball only</li><li>Made on Leading Green Arrow/Green Ball</li><li>Made on Green Arrow Only</li><li>No Left Turn Conflict</li></ul> | 0                     | 0                     | 0           | 0                        |
| Table 1A - POINTS                                                                                                                                                                     | 0                     | 15                    | 0           | 15                       |
| <b>B. STOP BAR LOCATION</b>                                                                                                                                                           |                       |                       |             |                          |
|                                                                                                      |                       |                       |             |                          |
| <ul style="list-style-type: none"><li>Shared stop bar for bikes &amp; autos</li><li>Advanced stop bar for bikes or bike box</li></ul>                                                 | 0                     | 0                     | 0           | 0                        |
| Table 1B - POINTS                                                                                                                                                                     | 0                     | 0                     | 0           | 0                        |
| Table 1 - POINTS                                                                                                                                                                      | 0                     | 15                    | 0           | 15                       |

| Table 2.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | NB Approach | SB Approach | EB Approach | WB Approach |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|-------------|
| <b>Bicycle Travel Way</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |             |             |             |             |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |             |             |             |             |
| <b>Bike Transitions in Approach/Departure Lane</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |             |             |             |             |
| <ul style="list-style-type: none"><li>Shared Auto Lane to Shared Auto Lane (lane &lt; 12' wide)</li><li>Shared Auto Lane (lane &lt; 12' wide) to Wide Curb Lane (lane &lt; 12' wide)</li><li>Shared Auto Lane (lane &lt; 12' wide) to Bike Lane</li><li>Shared Wide Curb Lane (12' to 14' wide) to Shared Auto Lane (lane &lt; 12' wide)</li><li>Shared Wide Curb Lane (lane &lt; 12' wide) to Wide Curb Lane (lane &lt; 12' wide)</li><li>Shared Wide Curb Lane (lane &lt; 12' wide) to Bike Lane</li><li>Bike Lane to Shared Auto Lane (lane &lt; 12' wide)</li><li>Bike Lane to Wide Curb Lane (12' to 14' wide)</li><li>Bike Lane to Bike Lane</li></ul> | 5           | 5           |             |             |
| Table 2 - POINTS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 5           | 5           |             |             |

| Table 3.                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | NB Approach | SB Approach | EB Approach | WB Approach |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|-------------|
| <b>Right Turn Conflicts</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                |             |             |             |             |
|                                                                                                                                                                                                                                                                                                                                                                                         |             |             |             |             |
| <ul style="list-style-type: none"><li>No Conflict with Right Turning Motorist (i.e., "T" intersection, one-way street)</li><li>Bike in Shared Thru-Right Lane</li><li>Bike Lane Right of Shared Thru-Right Lane</li><li>Separate Right Turn Lane Provided (see Figure below)</li><li>Condition A in Figure below</li><li>Condition B in Figure below</li><li>Condition C in Figure below</li><li>Condition D in Figure below</li><li>Condition E in Figure below</li></ul> | 15          | 15          | 0           | 0           |
|                                                                                                                                                                                                                                                                                                                                                                                         |             |             |             |             |
| Table 3 - POINTS                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 15          | 15          | 0           | 0           |

| Table 4.                                                                                                        | NB Approach | SB Approach | EB Approach | WB Approach |
|-----------------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|-------------|
| <b>Right Turn on Red Conflict</b>                                                                               |             |             |             |             |
|                              |             |             |             |             |
| <ul style="list-style-type: none"><li>Allowed</li><li>Prohibited (or there is no right turn conflict)</li></ul> | 0           | 0           | 0           | 0           |
| Table 4 - POINTS                                                                                                | 0           | 0           | 0           | 0           |

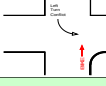
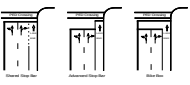
| Table 5.                                                                                                                                                              | NB Approach | SB Approach | EB Approach | WB Approach |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|-------------|
| <b>Intersection Crossing Distance for Boulevards</b>                                                                                                                  |             |             |             |             |
| <ul style="list-style-type: none"><li>&lt; 3 motor vehicle travel lanes</li><li>4 to 5 motor vehicle travel lanes</li><li>&gt; 5 motor vehicle travel lanes</li></ul> | 0           | 0           | 0           | 0           |
| Table 5 - POINTS                                                                                                                                                      | 0           | 0           | 0           | 0           |

| Approach Total       | NB Approach | SB Approach | EB Approach | WB Approach |
|----------------------|-------------|-------------|-------------|-------------|
| Approach LOS         | A           | B           | C           | D           |
| Intersection Average | B           |             |             |             |
| Intersection LOS     | D           |             |             |             |

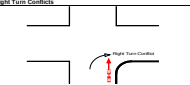
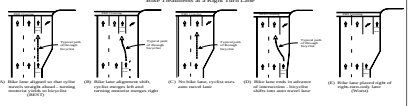
**BICYCLE LEVEL OF SERVICE Worksheet**  
(to be used for Signalized Intersections)

Intersection: **Sidings Road and Sweet Birch Drive (Improved)**  
Date: **6/8/2025**

Select points from Tables 1-6 on the left hand side of spreadsheet and enter the numerical value into the appropriate YELLOW highlighted cells on the right. Spreadsheet calculates approach by BIKELOS and overall intersection BIKELOS.

| Table 1.                                                                                                                                                                              | NB Approach         | SB Approach         | EB Approach              | WB Approach              |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---------------------|--------------------------|--------------------------|
| <b>SIGNAL FEATURES</b>                                                                                                                                                                | <b>Sidings Road</b> | <b>Sidings Road</b> | <b>Sweet Birch Drive</b> | <b>Sweet Birch Drive</b> |
| <b>A. Auto Left Turn Phase (opposing cyclists)</b>                                                                                                                                    |                     |                     |                          |                          |
|                                                                                                      |                     |                     |                          |                          |
| <ul style="list-style-type: none"><li>Made on Green Ball only</li><li>Made on Leading Green Arrow/Green Ball</li><li>Made on Green Arrow Only</li><li>No Left Turn Conflict</li></ul> | 0<br>5<br>15<br>15  | 0<br>15<br>0<br>15  | 0<br>0<br>0<br>0         | 0<br>0<br>0<br>0         |
| Table 1A - POINTS                                                                                                                                                                     | 0                   | 15                  | 0                        | 15                       |
| <b>B. STOP BAR LOCATION</b>                                                                                                                                                           |                     |                     |                          |                          |
|                                                                                                      |                     |                     |                          |                          |
| <ul style="list-style-type: none"><li>Shared stop bar for bikes &amp; autos</li><li>Advanced stop bar for bikes or bike box</li></ul>                                                 | 0<br>10             | 0<br>0              | 0<br>0                   | 0<br>0                   |
| Table 1B - POINTS                                                                                                                                                                     | 0                   | 0                   | 0                        | 0                        |
| Table 1 - POINTS                                                                                                                                                                      | 0                   | 15                  | 0                        | 15                       |

| Table 2.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | NB Approach                          | SB Approach   | EB Approach   | WB Approach    |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|---------------|---------------|----------------|
| <b>Bicycle Travel Way</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                      |               |               |                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                      |               |               |                |
| <b>Bike Transitions in Approach/Departure Lanes</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                      |               |               |                |
| <ul style="list-style-type: none"><li>Shared Auto Lane to Shared Auto Lane (lane &lt; 12' wide)</li><li>Shared Auto Lane (lane &lt; 12' wide) to Wide Curb Lane (lane &lt; 12' wide)</li><li>Shared Auto Lane (lane &lt; 12' wide) to Bike Lane</li><li>Shared Wide Curb Lane (12' to 14' wide) to Shared Auto Lane (lane &lt; 12' wide)</li><li>Shared Wide Curb Lane (lane &lt; 12' wide) to Wide Curb Lane (lane &lt; 12' wide)</li><li>Shared Wide Curb Lane (lane &lt; 12' wide) to Bike Lane</li><li>Bike Lane to Shared Auto Lane (lane &lt; 12' wide)</li><li>Bike Lane to Wide Curb Lane (12' to 14' wide)</li><li>Bike Lane to Bike Lane</li></ul> | 0-40 mph<br>30 to 35 mph<br>< 30 mph | 5<br>30<br>50 | 5<br>30<br>50 | 50<br>30<br>80 |
| Table 2 - POINTS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 0                                    | 5             | 5             | 50             |

| Table 3.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | NB Approach                                         | SB Approach                                     | EB Approach                                    | WB Approach                                    |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|-------------------------------------------------|------------------------------------------------|------------------------------------------------|
| <b>Right Turn Conflicts</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                     |                                                 |                                                |                                                |
|                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                     |                                                 |                                                |                                                |
| <ul style="list-style-type: none"><li>No Conflict with Right Turning Motorist (e.g., "T" intersection, one-way street)</li><li>Bike in Shared Thru-Right Lane</li><li>Bike Lane Right of Shared Thru-Right Lane</li><li>Separate Right Turn Lane Provided (see Figure 1a-f)</li><li>Condition A in Figure 1a-f</li><li>Condition B in Figure 1a-f</li><li>Condition C in Figure 1a-f</li><li>Condition D in Figure 1a-f</li><li>Condition E in Figure 1a-f</li><li>Condition F in Figure 1a-f</li></ul> | 15<br>0<br>-5<br>0<br>10<br>0<br>0<br>0<br>0<br>-20 | 15<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0 | 0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0 | 0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0 |
| <b>Bike Transitions in a Right Turn Lane</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                     |                                                 |                                                |                                                |
|                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                     |                                                 |                                                |                                                |
| Table 3 - POINTS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 0                                                   | 15                                              | 0                                              | 0                                              |

| Table 5.                                                                                                        | NB Approach | SB Approach | EB Approach | WB Approach |
|-----------------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|-------------|
| <b>Right Turn on Red Conflict</b>                                                                               |             |             |             |             |
|                              |             |             |             |             |
| <ul style="list-style-type: none"><li>Allowed</li><li>Prohibited (or there is no right turn conflict)</li></ul> | 0<br>5      | 0<br>5      | 0<br>5      | 0<br>5      |
| Table 5 - POINTS                                                                                                | 0           | 5           | 0           | 5           |

| Table 6.                                                                                                                                                              | NB Approach    | SB Approach | EB Approach | WB Approach |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|-------------|-------------|-------------|
| <b>Intersection Crossing Distance for Encroachments</b>                                                                                                               |                |             |             |             |
| <ul style="list-style-type: none"><li>&lt; 3 motor vehicle travel lanes</li><li>4 to 5 motor vehicle travel lanes</li><li>&gt; 5 motor vehicle travel lanes</li></ul> | 0<br>-5<br>-10 | 0<br>0<br>0 | 0<br>0<br>0 | 0<br>0<br>0 |
| Table 6 - POINTS                                                                                                                                                      | 0              | 0           | 0           | 0           |

|                                       | NB Approach | SB Approach | EB Approach | WB Approach |
|---------------------------------------|-------------|-------------|-------------|-------------|
| Approach Total Approach LOS           | 5<br>F      | 40<br>D     | 0<br>F      | 70<br>C+    |
| Intersection Average Intersection LOS | 5<br>D      |             |             |             |

Intersection: Sweet Birch Drive and Nouvelle Drive  
Date: 9/8/2020

| Table 1.                                                                                                                                                                                           | SB Approach         | SB Approach    | EB Approach        | WB Approach        |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|----------------|--------------------|--------------------|
|                                                                                                                                                                                                    | Memorial Drive      | Memorial Drive | Samuel Smith Drive | Samuel Smith Drive |
| <b>SIGNAL FEATURES</b>                                                                                                                                                                             |                     |                |                    |                    |
| <b>A. Auto Left Turn Phase (opening conflicts)</b>                                                                                                                                                 |                     |                |                    |                    |
|                                                                                                                   |                     |                |                    |                    |
| <ul style="list-style-type: none"> <li>• Made on Green Ball Only</li> <li>• Made on Leading Green Arrow/Green Ball</li> <li>• Made on Green Arrow Only</li> <li>• No Left Turn Conflict</li> </ul> | 0<br>15<br>15<br>15 |                |                    |                    |
|                                                                                                                                                                                                    |                     | 0              |                    |                    |
|                                                                                                                                                                                                    | 15                  |                |                    | 15                 |
|                                                                                                                                                                                                    |                     | 0              |                    | 15                 |
| <b>B. STOP BAR LOCATION</b>                                                                                                                                                                        |                     |                |                    |                    |
|                                                                                                                   |                     |                |                    |                    |
| <ul style="list-style-type: none"> <li>• Stopped stop bar for left-turn &amp; ahead</li> <li>• Advanced stop bar for left-turn or bike box</li> </ul>                                              | 0<br>0<br>0         |                |                    |                    |
|                                                                                                                                                                                                    |                     | 0              |                    | 0                  |
|                                                                                                                                                                                                    | 0                   |                | 0                  | 0                  |
|                                                                                                                                                                                                    | 15                  |                | 0                  | 15                 |
|                                                                                                                                                                                                    |                     | 0              |                    | 15                 |

[illegible]

| Table 6                                    |     |             |             |             |             |
|--------------------------------------------|-----|-------------|-------------|-------------|-------------|
| Intersection Crossing Distance (for Truck) |     | NB Approach | SB Approach | EB Approach | WB Approach |
| • 2.5 meter vehicle travel lanes           | 0   | 0           | 0           | 0           | 0           |
| • 4 to 5 meter vehicle travel lanes        | -5  |             |             |             |             |
| • 2.5 meter vehicle travel lanes           | -10 |             |             |             |             |

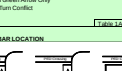
  

| Table 6 - POINT 5                     |             |             |             |             |
|---------------------------------------|-------------|-------------|-------------|-------------|
|                                       | NB Approach | SB Approach | EB Approach | WB Approach |
| Approach Total                        | 30          | 5           | 10          | 15          |
| Approach LOS                          | C+          | F           | D           | B           |
| Intersection Average Intersection LOS | C           | C           |             |             |

**BICYCLE LEVEL OF SERVICE Worksheet**  
(to be used for Signalized Intersections)

Intersection: Stallings Rd at Monroe Expressway WB Ramp (existing)  
Date: 9/8/2020

Select points from Tables 1-6 on the left hand side of spreadsheet and enter the numerical value into the appropriate YELLOW highlighted cells on the right. Spreadsheet calculates approach leg BIKE LOS and overall intersection BIKE LOS.

| Table 1.                                                                                                                                                                                   |                    | VB Approach  | SB Approach  | EB Approach  | WB Approach           |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|--------------|--------------|--------------|-----------------------|
| SIGNAL FEATURES                                                                                                                                                                            |                    | Stallage 1st | Stallage 1st | Stallage 1st | one Extra-long VB Run |
| <b>A. Auto Left Turn Phase (opening cyclists)</b>                                                         |                    |              |              |              |                       |
| <ul style="list-style-type: none"> <li>Made on Green Ball only</li> <li>Made on Leading Green Arrow/Green Ball</li> <li>Made on Green Arrow Only</li> <li>No Left Turn Conflict</li> </ul> | 0<br>5<br>15<br>15 |              |              |              |                       |
| Table 1A. POINTS                                                                                                                                                                           |                    | 15           | 15           |              | 15                    |
| <b>B. STOP BAR LOCATION</b>                                                                               |                    |              |              |              |                       |
| <ul style="list-style-type: none"> <li>Shored stop bar for bikes &amp; autos</li> <li>Advanced stop bar for bikes or bike box</li> </ul>                                                   | 0<br>10            |              |              |              |                       |
| Table 1B. POINTS                                                                                                                                                                           |                    | 0            | 0            |              | 0                     |
| Table 1C. POINTS                                                                                                                                                                           |                    | 15           | 15           | 0            | 15                    |

[illegible]

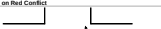
| Table 3<br>Right Turn Conflicts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                     | NR Approach | SR Approach | SR Approach | SR Approach |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-------------|-------------|-------------|-------------|
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                     | 15          |             |             |             |
| <ul style="list-style-type: none"> <li>No Conflict with Right Turning Motorists (e.g., "T" intersection, one-way street)</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                         | 15                  |             |             |             |             |
| <ul style="list-style-type: none"> <li>While in Shaded Thru-Right Lane</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                     | 0           |             |             | 0           |
| <ul style="list-style-type: none"> <li>While Lane Right of Shaded Thru-Right Lane</li> <li>— Blue lane drops prior to Intersection</li> <li>— Blue lane extends to Intersection</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                  | -5                  |             |             |             |             |
| <ul style="list-style-type: none"> <li>Separate Right Turn Lane Provided (see Figure below)</li> <li>Blue lane is left of right turn lane</li> <li>(Condition A in Figure below)</li> <li>— Conf lane becomes right turn lane, blue lane left of (Condition B in Figure below)</li> <li>— No blue lane</li> <li>(Condition C in Figure below)</li> <li>— Conf lane becomes right turn lane, no blue lane</li> <li>(Figure D in PED &amp; BND LOS Methodology)</li> <li>— Blue lane right of right turn lane</li> <li>(Figure E in PED &amp; BND LOS Methodology)</li> </ul> | 10<br>5<br>0<br>-20 |             |             |             |             |

| Right Turnthroughs at a Right Turn Lane                                                 |                                                                                         |                                                                                         |                                                                                         |                                                                                         |                                                                                         |
|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
|                                                                                         |                                                                                         |                                                                                         |                                                                                         |                                                                                         |                                                                                         |
| <p>(A) Blue Lane Right of Right Turn Lane</p> <p>Blue Lane Right of Right Turn Lane</p> | <p>(B) Blue Lane Right of Right Turn Lane</p> <p>Blue Lane Right of Right Turn Lane</p> | <p>(C) Blue Lane Right of Right Turn Lane</p> <p>Blue Lane Right of Right Turn Lane</p> | <p>(D) Blue Lane Right of Right Turn Lane</p> <p>Blue Lane Right of Right Turn Lane</p> | <p>(E) Blue Lane Right of Right Turn Lane</p> <p>Blue Lane Right of Right Turn Lane</p> | <p>(F) Blue Lane Right of Right Turn Lane</p> <p>Blue Lane Right of Right Turn Lane</p> |

| Table 3 | Table 3 | Table 3 | Table 3 | Table 3 | Table 3 |
|---------|---------|---------|---------|---------|---------|
| Table 3 | Table 3 | Table 3 | Table 3 | Table 3 | Table 3 |

| Right Turn on Red Conflict                                                          |   | NR Approach | SB Approach | EB Approach | WB Approach |
|-------------------------------------------------------------------------------------|---|-------------|-------------|-------------|-------------|
|  |   |             |             |             |             |
| • Allowed                                                                           | 0 | 0           |             |             | 0           |
| • Prohibited (or there is no right turn conflict)                                   | 5 |             | 5           |             |             |
| <b>Table 5. POINTS:</b>                                                             |   | 0           | 5           | 0           | 0           |

| Table 6.<br>Intersection Crossing Distance for the cyclist |     | NR Approach | SB Approach | EB Approach | WB Approach |
|------------------------------------------------------------|-----|-------------|-------------|-------------|-------------|
| • 5.3 motor vehicle travel lanes                           | 0   | 0           | 0           |             |             |
| • 4 to 5 motor vehicle travel lanes                        | -5  |             |             |             |             |
| • 2.6 motor vehicle travel lanes                           | -10 |             |             |             | -10         |
| <b>Table 6 POINTS</b>                                      |     | 0           | 0           | 0           | -10         |

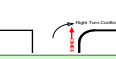
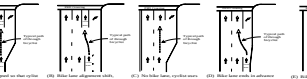
|                       | NS Approach | SB Approach | EB Approach | WB Approach |
|-----------------------|-------------|-------------|-------------|-------------|
| Approach Total:       | 60          | 25          |             | 35          |
| Approach LOS:         | C           | E           |             | E+          |
| Intersection Average: | 40          |             |             |             |
| Intersection LOS:     | D-          |             |             |             |

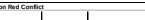
Intersection: Stallings Rd at Monroe Expressway EB Ramp (existing)  
Date: 9/8/2020

Select points from Tables 1-6 on the left hand side of spreadsheet and enter the numerical value into the appropriate YELLOW highlighted cells on the right. Spreadsheet calculates approach leg BIKE LOS and overall intersection BIKE LOS.

| Table 1.                                                                                                                                                                                           |                    | NI Approach  | SR Approach  | EB Approach                         | WB Approach |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|--------------|--------------|-------------------------------------|-------------|
| SIGNAL FEATURES                                                                                                                                                                                    |                    | Stopline R/W | Stopline R/W | cross R/W approximately 250 ft. R/W |             |
| <b>A. Auto Left Turn Phase (opposing cycle):</b>                                                                                                                                                   |                    |              |              |                                     |             |
|                                                                                                                   |                    |              |              |                                     |             |
| <ul style="list-style-type: none"> <li>• Made on Green Ball only</li> <li>• Made on Leading Green Arrow/Green Ball</li> <li>• Made on Green Arrow Only</li> <li>• No Left Turn Conflict</li> </ul> | 0<br>5<br>10<br>15 | 15           | 15           | 15                                  |             |
| <b>Table 1A. POINTS</b>                                                                                                                                                                            |                    | 15           | 15           | 15                                  | 0           |
| <b>B. STOP BAR LOCATION</b>                                                                                                                                                                        |                    |              |              |                                     |             |
|                                                                                                                   |                    |              |              |                                     |             |
| <ul style="list-style-type: none"> <li>• Advanced stop bar for bikes &amp; autos</li> <li>• Advanced stop bar for bikes or bike box</li> </ul>                                                     | 0<br>10            | 0            | 0            | 0                                   |             |
| <b>Table 1B. POINTS</b>                                                                                                                                                                            |                    | 0            | 0            | 0                                   | 0           |
| <b>Table 1C. POINTS</b>                                                                                                                                                                            |                    | 15           | 15           | 15                                  | 0           |

| Bicycle Travel Way                                                                               |                                      | NR Approach    | EB Approach    | WB Approach |
|--------------------------------------------------------------------------------------------------|--------------------------------------|----------------|----------------|-------------|
|                                                                                                  |                                      |                |                |             |
| <b>Bike Travels in:</b><br><b>Approach (Shoulder Lane)</b>                                       |                                      |                |                |             |
| <b>• Shared Auto Lane to Shared Auto Lane</b><br>(lanes 5'12" wide)                              | ≥ 40 mph<br>30 to 35 mph<br>< 30 mph | 5<br>30<br>50  |                | 30          |
| <b>• Shared Auto Lane to White Curb Lane</b><br>(lanes 5'12" wide)<br>(≥ 13' to 14" wide)        | ≥ 40 mph<br>30 to 35 mph<br>< 30 mph |                | 20<br>40<br>50 |             |
| <b>• Shared Auto Lane to Blue Lane</b><br>(lanes 5'12" wide)                                     | ≥ 40 mph<br>30 to 35 mph<br>< 30 mph | 25<br>50<br>80 |                |             |
| <b>• Shared White Curb Lane to Shared Auto Lane</b><br>(lanes 5'12" wide)<br>(≥ 13' to 14" wide) | ≥ 40 mph<br>30 to 35 mph<br>< 30 mph | 15<br>20<br>50 |                |             |
| <b>• Shared White Curb Lane to White Curb Lane</b><br>(lanes 13' to 14" wide)                    | ≥ 40 mph<br>30 to 35 mph<br>< 30 mph | 30<br>50<br>80 |                |             |
| <b>• Shared White Curb Lane to Blue Lane</b><br>(lanes 13' to 14" wide)                          | ≥ 40 mph<br>30 to 35 mph<br>< 30 mph | 45<br>60<br>70 |                |             |
| <b>• Blue Lane to Shared Auto Lane</b><br>(lanes 5'12" wide)                                     | ≥ 40 mph<br>30 to 35 mph<br>< 30 mph | 30<br>45<br>55 |                |             |
| <b>• Blue Lane to White Curb Lane</b><br>(lanes 13' to 14" wide)                                 | ≥ 40 mph<br>30 to 35 mph<br>< 30 mph | 40<br>55<br>65 |                |             |
| <b>• Blue Lane to Blue Lane</b>                                                                  | ≥ 40 mph<br>30 to 35 mph<br>< 30 mph | 60<br>70<br>80 |                |             |
| <b>Table 2. Points</b>                                                                           |                                      | 30             | 30             | 30          |
|                                                                                                  |                                      |                |                | 0           |

| Signal Turn Configs                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | NB Approach              | SB Approach | EB Approach | WB Approach |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|-------------|-------------|-------------|
|  <p>Right Turn Lane</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                          |             |             |             |
| <ul style="list-style-type: none"> <li>No Conflict with Right Turning Motorists (e.g., "T" intersection, one-way street)</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 15                       | 15          |             |             |
| <ul style="list-style-type: none"> <li>Blue is Shaded <b>Thru-Right Lane</b></li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 0                        | 0           | 0           |             |
| <ul style="list-style-type: none"> <li>Blue Lane Right of Shaded <b>Thru-Right Lane</b> <ul style="list-style-type: none"> <li>Blue lane drops prior to intersection</li> <li>Blue lane extends to intersection</li> </ul> </li> </ul>                                                                                                                                                                                                                                                                                                                                                      | -6                       |             |             |             |
| <ul style="list-style-type: none"> <li>Separate Right Turn Lane Provided (<b>see Figure below</b>)           <ul style="list-style-type: none"> <li>Blue lane is left of right turn lane (Condition A in Figure below)</li> <li>Left lane decreases right turn lane, no blue lane (Condition B in Figure below)</li> <li>No blue lane (Condition C in Figure below)</li> <li>Left lane increases right turn lane, no blue lane (Figure D in PED &amp; BK2E LOS Methodology)</li> <li>Blue lane right of right turn lane (Figure E in PED &amp; BK2E LOS Methodology)</li> </ul> </li> </ul> | 10<br>5<br>0<br>0<br>-20 |             |             |             |
| <div style="border: 1px solid black; padding: 10px;"> <p style="text-align: center;">Signal Transitions at a Right Turn Lane</p>  <p>(A) Blue lane left of right turn lane<br/>(B) Left lane decreases right turn lane<br/>(C) No blue lane<br/>(D) Left lane increases right turn lane<br/>(E) Blue lane right of right turn lane</p> </div>                                                                                                                                                            |                          |             |             |             |
| <p>Table 3.10. Signalized Intersections with Right Turn Lanes</p> <p>Source: FHWA, 2008</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                          |             |             |             |
| Table 3. POWER:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 0                        | 12          | 0           | 0           |

| Right Turn on Red Conflict                                                                        | NB Approach | SB Approach | EB Approach | WB Approach |
|---------------------------------------------------------------------------------------------------|-------------|-------------|-------------|-------------|
|                |             |             |             |             |
| <ul style="list-style-type: none"> <li>Allowed</li> </ul>                                         | 0           | 0           | 0           |             |
| <ul style="list-style-type: none"> <li>Prohibited (or there is no right turn conflict)</li> </ul> | 5           | 5           |             |             |
| Table 5. <i>continued</i>                                                                         | 5           | 0           | 0           | 0           |

| Intersection Crossing Distance (for this cycle) | NB Approach | SB Approach | EB Approach | WB Approach |
|-------------------------------------------------|-------------|-------------|-------------|-------------|
| • 5.3 motor vehicle travel lanes                | 0           | 0           | 0           |             |
| • 4 to 5 motor vehicle travel lanes             | -5          |             |             |             |
| • 2.6 motor vehicle travel lanes                | -30         |             | -30         |             |
| • 3rd & 4th approach                            | 0           | 0           | 30          | 0           |

|                       | NB Approach | SB Approach | EB Approach | WB Approach |
|-----------------------|-------------|-------------|-------------|-------------|
| Approach Total:       | 50          | 60          | 35          | 0           |
| Approach LOS:         | D           | C           | E+          | F           |
| Intersection Average: | 32          |             |             |             |
| Intersection LOS:     | F           |             |             |             |

**BICYCLE LEVEL OF SERVICE Worksheet**  
(to be used for Signalized Intersections)

**Intersection:** Stallings Rd at Monroe Expressway EB Ramp (future)  
**Date:** 9/8/2020

Select points from Tables 1-6 on the left hand side of spreadsheet and enter the numerical value into the appropriate YELLOW highlighted cells on the right. Spreadsheet calculates approach leg BIKE LOS and overall intersection BIKE LOS.

| Table 1.                                                                                                                                                                                  |                    | SB Approach | SB Approach | SB Approach | WB Approach |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-------------|-------------|-------------|-------------|
| SIGNAL FEATURES                                                                                                                                                                           |                    | Station 104 | Station 104 | Station 104 | Station 104 |
| <b>A. Auto Left Turn Phase (approaching cyclists)</b>                                                    |                    |             |             |             |             |
| <ul style="list-style-type: none"> <li>Made on Green Ball only</li> <li>Made on Leading Green Arrow/Green Ball</li> <li>Made on Green Arrow Only</li> <li>No Left Turn Conflic</li> </ul> | 0<br>5<br>15<br>15 | 15          | 15          | 15          |             |
| Table 1-1. POINTS                                                                                                                                                                         |                    | 15          | 15          | 15          | 0           |
| <b>B. STOP BAR LOCATION</b>                                                                              |                    |             |             |             |             |
| <ul style="list-style-type: none"> <li>Showed stop bar for bikes &amp; autos</li> <li>Advanced stop bar for bikes or bike box</li> </ul>                                                  | 0<br>10            | 0           | 0           | 0           |             |
| Table 1-2. POINTS                                                                                                                                                                         |                    | 0           | 0           | 0           | 0           |
| Table 1-3. POINTS                                                                                                                                                                         |                    | 15          | 15          | 15          | 0           |

| Table 2<br>Bicycle Freeway Way                                                                     | MS Approach                          | EB Approach    | WB Approach    |
|----------------------------------------------------------------------------------------------------|--------------------------------------|----------------|----------------|
|                                                                                                    |                                      |                |                |
| <b>Bike Travels in</b><br><b>Through/Through-Lane</b>                                              | <b>Signal-Lane</b>                   |                |                |
| <b>Shared Auto Lane to Shared Auto Lane (lanes 5 &amp; 2' wide)</b>                                | 2-40 mph<br>30 to 35 mph<br>< 30 mph | 5<br>30<br>50  | 30<br>30<br>30 |
| <b>Shared Auto Lane (lanes 2 &amp; 2' wide)</b><br><b>to Wide Curb Lane (2' to 4' wide)</b>        | 2-40 mph<br>30 to 35 mph<br>< 30 mph | 20<br>40<br>50 |                |
| <b>Shared Auto Lane (lanes 2 &amp; 2' wide)</b><br><b>to Bike Lane</b>                             | 2-40 mph<br>30 to 35 mph<br>< 30 mph | 25<br>50<br>60 |                |
| <b>Shared Wide Curb Lane (2' to 4' wide)</b><br><b>to Shared Auto Lane (lanes 5 &amp; 2' wide)</b> | 2-40 mph<br>30 to 35 mph<br>< 30 mph | 15<br>25<br>50 |                |
| <b>Shared Wide Curb Lane to Wide Curb Lane (lanes 2' to 4' wide)</b>                               | 2-40 mph<br>30 to 35 mph<br>< 30 mph | 40<br>60<br>70 |                |
| <b>Shared Wide Curb Lane (2' to 4' wide)</b><br><b>to Bike Lane</b>                                | 2-40 mph<br>30 to 35 mph<br>< 30 mph | 45<br>60<br>75 |                |
| <b>Bike Lane to Shared Auto Lane (lanes 5 &amp; 2' wide)</b>                                       | 2-40 mph<br>30 to 35 mph<br>< 30 mph | 30<br>45<br>55 |                |
| <b>Bike Lane to Wide Curb Lane (2' to 4' wide)</b>                                                 | 2-40 mph<br>30 to 35 mph<br>< 30 mph | 40<br>55<br>65 |                |
| <b>Bike Lane to Bike Lane</b>                                                                      | 2-40 mph<br>30 to 35 mph<br>< 30 mph | 60<br>70<br>80 |                |
| <b>Table 3 - POINTS</b>                                                                            | 30                                   | 30             | 30             |

[illegible]

| Right Turn on Red Conflict                                                                        | NB Approach | SB Approach | EB Approach | WB Approach |
|---------------------------------------------------------------------------------------------------|-------------|-------------|-------------|-------------|
|                                                                                                   |             |             |             |             |
| <ul style="list-style-type: none"> <li>Allowed</li> </ul>                                         | 0           | 0           | 0           | 0           |
| <ul style="list-style-type: none"> <li>Prohibited (or there is no right turn conflict)</li> </ul> | 5           | 5           | 0           | 0           |
| <b>Table 5 POINTS:</b>                                                                            | 5           | 0           | 0           | 0           |

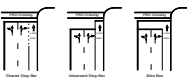
| Table 6. Intersection Crossing Distance (for thru cycle) |     | NS Approach | SB Approach | EB Approach | WB Approach |
|----------------------------------------------------------|-----|-------------|-------------|-------------|-------------|
| • 5.3 motor vehicle travel lanes                         | 0   | 0           | 0           |             |             |
| • 4 to 5 motor vehicle travel lanes                      | -5  |             |             |             |             |
| • 2.5 motor vehicle travel lanes                         | -10 |             |             | -10         |             |
| Table 6. POINTS:                                         |     | 0           | 0           | -10         | 0           |

|                       | NS Approach | SB Approach | EB Approach | WB Approach |
|-----------------------|-------------|-------------|-------------|-------------|
| Approach Total:       | 50          | 60          | 35          | 0           |
| Approach LOS:         | D           | C           | E+          | F           |
| Intersection Average: | 32          |             |             |             |
| Intersection LOS:     | E           |             |             |             |

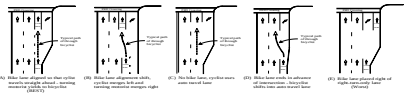
BICYCLE LEVEL OF SERVICE Worksheet  
(to be used for Signalized Intersections)

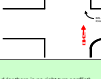
Intersection: **Swadlow Rd at Matthews-Indian Trail Rd**  
Date: **6/8/2020**

Select points from Tables 1-6 on the left hand side of spreadsheet and enter the numerical value into the appropriate YELLOW highlighted cells on the right. Spreadsheet calculates approach by BMD LOS and overall intersection BMD LOS.

| Table 1.                                                                                                                                                                              | NB Approach       | SB Approach       | EB Approach                     | WB Approach                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-------------------|---------------------------------|---------------------------------|
| <b>SIGNAL FEATURES</b>                                                                                                                                                                | <b>Swadlow Rd</b> | <b>Swadlow Rd</b> | <b>Matthews-Indian Trail Rd</b> | <b>Matthews-Indian Trail Rd</b> |
| <b>A. Auto Left Turn Phase (opposing cyclists)</b>                                                                                                                                    |                   |                   |                                 |                                 |
|                                                                                                      |                   |                   |                                 |                                 |
| <ul style="list-style-type: none"><li>Made on Green Ball only</li><li>Made on Leading Green Arrow/Green Ball</li><li>Made on Green Arrow Only</li><li>No Left Turn Conflict</li></ul> | 0                 | 0                 | 0                               | 0                               |
| Table 1A - POINTS                                                                                                                                                                     | 0                 | 0                 | 0                               | 0                               |
| <b>B. STOP BAR LOCATION</b>                                                                                                                                                           |                   |                   |                                 |                                 |
|                                                                                                      |                   |                   |                                 |                                 |
| <ul style="list-style-type: none"><li>Shared stop bar for bikes &amp; autos</li><li>Advanced stop bar for bikes or bike box</li></ul>                                                 | 0                 | 0                 | 0                               | 0                               |
| Table 1B - POINTS                                                                                                                                                                     | 0                 | 0                 | 0                               | 0                               |
| Table 1 - POINTS                                                                                                                                                                      | 0                 | 0                 | 0                               | 0                               |

| Table 2.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | NB Approach | SB Approach | EB Approach | WB Approach |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|-------------|
| <b>Bicycle Travel Way</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |             |             |             |             |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |             |             |             |             |
| <b>Bike Travel in Approach/Departure Lane</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |             |             |             |             |
| <ul style="list-style-type: none"><li>Shared Auto Lane to Shared Auto Lane (lane &lt; 12' wide)</li><li>Shared Auto Lane (lane &lt; 12' wide) to Wide Curb Lane (lane &lt; 14' wide)</li><li>Shared Auto Lane (lane &lt; 12' wide) to Bike Lane</li><li>Shared Wide Curb Lane (12' to 14' wide) to Shared Auto Lane (lane &lt; 12' wide)</li><li>Shared Wide Curb Lane (lane &lt; 12' wide) to Wide Curb Lane (lane &lt; 14' wide)</li><li>Shared Wide Curb Lane (lane &lt; 12' wide) to Bike Lane</li><li>Bike Lane to Shared Auto Lane (lane &lt; 12' wide)</li><li>Bike Lane to Wide Curb Lane (12' to 14' wide)</li><li>Bike Lane to Bike Lane</li></ul> | 30          | 30          | 5           | 30          |
| Table 2 - POINTS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 30          | 30          | 5           | 30          |

| Table 3.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | NB Approach | SB Approach | EB Approach | WB Approach |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|-------------|
| <b>Right Turn Conflicts</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |             |             |             |             |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |             |             |             |             |
| <ul style="list-style-type: none"><li>No Conflict with Right Turning Motorist (i.e., "T" intersection, one-way street)</li><li>Bike in Shared Thru-Right Lane<ul style="list-style-type: none"><li>Bike lane drops prior to intersection</li><li>Bike lane extends to intersection</li></ul></li><li>Separate Right Turn Lane Provided (see Figure below)<ul style="list-style-type: none"><li>Bike lane is left of right turn lane</li><li>Condition A in Figure below</li><li>Curb lane becomes right turn lane, bike lane left of condition A in Figure below</li><li>No bike lane</li><li>Condition C in Figure below</li><li>Curb lane becomes right turn lane, no bike lane</li><li>Figure D in PED &amp; BMD LOS Methodology</li><li>Bike lane right of right turn lane</li><li>Figure E in PED &amp; BMD LOS Methodology</li></ul></li></ul> | 0           | 0           | 0           | 0           |
| <b>Bike Travel in a Right Turn Lane</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |             |             |             |             |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |             |             |             |             |
| Table 3 - POINTS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 0           | 0           | 0           | 0           |

| Table 5.                                                                                                        | NB Approach | SB Approach | EB Approach | WB Approach |
|-----------------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|-------------|
| <b>Right Turn on Red Conflict</b>                                                                               |             |             |             |             |
|                              |             |             |             |             |
| <ul style="list-style-type: none"><li>Allowed</li><li>Prohibited (or there is no right turn conflict)</li></ul> | 0           | 0           | 0           | 0           |
| Table 5 - POINTS                                                                                                | 0           | 0           | 0           | 0           |

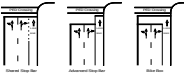
| Table 6.                                                                                                                                                              | NB Approach | SB Approach | EB Approach | WB Approach |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|-------------|
| <b>Intersection Crossing Distance for the approach</b>                                                                                                                |             |             |             |             |
| <ul style="list-style-type: none"><li>&lt; 3 motor vehicle travel lanes</li><li>4 to 5 motor vehicle travel lanes</li><li>&gt; 5 motor vehicle travel lanes</li></ul> | 0           | 0           | 0           | 0           |
| Table 6 - POINTS                                                                                                                                                      | 0           | 0           | 0           | 0           |
| <b>Approach Total Approach LOS</b>                                                                                                                                    | 30          | 30          | 5           | 30          |
| <b>Intersection Average Intersection LOS</b>                                                                                                                          | 30          | 30          | 5           | 30          |



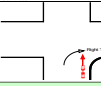
**BICYCLE LEVEL OF SERVICE Worksheet**  
(to be used for Signalized Intersections)

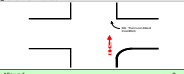
Intersection: **ME Hammon Church Rd and Stevens Mill Road**  
Date: **8/8/2020**

Select points from Tables 1-6 on the left hand side of spreadsheet and enter the numerical value into the appropriate YELLOW highlighted cells on the right. Spreadsheet calculates approach by BIKELOS and overall intersection BIKELOS.

| Table 1.                                                                                                                                                                              | NB Approach                | SB Approach                | EB Approach            | WB Approach            |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|----------------------------|------------------------|------------------------|
| <b>SIGNAL FEATURES</b>                                                                                                                                                                | <b>ME Hammon Church Rd</b> | <b>ME Hammon Church Rd</b> | <b>Stevens Mill Rd</b> | <b>Stevens Mill Rd</b> |
| <b>A. Auto Left Turn Phase (opposing cyclists)</b>                                                                                                                                    |                            |                            |                        |                        |
|                                                                                                      |                            |                            |                        |                        |
| <ul style="list-style-type: none"><li>Made on Green Ball only</li><li>Made on Leading Green Arrow/Green Ball</li><li>Made on Green Arrow Only</li><li>No Left Turn Conflict</li></ul> | 0<br>5<br>15               | 0                          | 15                     | 15                     |
| <b>Table 1A - POINTS</b>                                                                                                                                                              | 0                          | 0                          | 15                     | 15                     |
| <b>B. STOP BAR LOCATION</b>                                                                                                                                                           |                            |                            |                        |                        |
|                                                                                                      |                            |                            |                        |                        |
| <ul style="list-style-type: none"><li>Shared stop bar for bikes &amp; autos</li><li>Advanced stop bar for bikes or bike box</li></ul>                                                 | 0<br>10                    | 0                          | 0                      | 0                      |
| <b>Table 1B - POINTS</b>                                                                                                                                                              | 0                          | 0                          | 0                      | 0                      |
| <b>Table 1 - POINTS</b>                                                                                                                                                               | 0                          | 0                          | 15                     | 15                     |

| Table 2.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | NB Approach                          | SB Approach   | EB Approach    | WB Approach    |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|---------------|----------------|----------------|
| <b>Bicycle Travel Way</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                      |               |                |                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                      |               |                |                |
| <b>Bike Transitions in Approach/Departure Lane</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                      |               |                |                |
| <ul style="list-style-type: none"><li>Shared Auto Lane to Shared Auto Lane (lane &lt; 12' wide)</li><li>Shared Auto Lane (lane &lt; 12' wide) to Wide Curb Lane (lane &lt; 12' wide)</li><li>Shared Auto Lane (lane &lt; 12' wide) to Bike Lane</li><li>Shared Wide Curb Lane (12' to 14' wide) to Shared Auto Lane (lane &lt; 12' wide)</li><li>Shared Wide Curb Lane (lane &lt; 12' wide) to Wide Curb Lane (lane &lt; 12' wide)</li><li>Shared Wide Curb Lane (lane &lt; 12' wide) to Bike Lane</li><li>Bike Lane to Shared Auto Lane (lane &lt; 12' wide)</li><li>Bike Lane to Wide Curb Lane (12' to 14' wide)</li><li>Bike Lane to Bike Lane</li></ul> | 2-40 mph<br>30 to 35 mph<br>< 30 mph | 5<br>30<br>50 | 30<br>30<br>30 | 30<br>30<br>30 |
| <b>Table 2A - POINTS</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 30                                   | 30            | 30             | 30             |

| Table 3.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | NB Approach        | SB Approach | EB Approach | WB Approach |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-------------|-------------|-------------|
| <b>Right Turn Conflicts</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                    |             |             |             |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                    |             |             |             |
| <ul style="list-style-type: none"><li>No Conflict with Right Turning Motorist (e.g., "T" intersection, one-way street)</li><li>Bike in Shared Thru-Right Lane<ul style="list-style-type: none"><li>Bike lane drops prior to intersection</li><li>Bike lane extends to intersection</li></ul></li><li>Separate Right Turn Lane Provided (see Figure below)<ul style="list-style-type: none"><li>Bike lane to left of right turn lane</li><li>Condition A in Figure below</li><li>Curb lane becomes right turn lane, bike lane left of condition A in Figure below</li><li>No bike lane</li><li>Condition C in Figure below</li><li>Curb lane becomes right turn lane, no bike lane</li><li>Figure D in PED &amp; BIKELOS Methodology</li><li>Bike lane right of right turn lane</li><li>Figure E in PED &amp; BIKELOS Methodology</li></ul></li></ul> | 15<br>0<br>-5<br>0 | 0           | 0           | 0           |
| <b>Table 3A - POINTS</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 15                 | 0           | 0           | 0           |

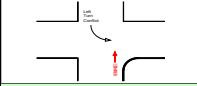
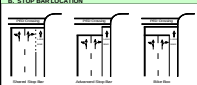
| Table 5.                                                                                                        | NB Approach | SB Approach | EB Approach | WB Approach |
|-----------------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|-------------|
| <b>Right Turn on Red Conflict</b>                                                                               |             |             |             |             |
|                              |             |             |             |             |
| <ul style="list-style-type: none"><li>Allowed</li><li>Prohibited (or there is no right turn conflict)</li></ul> | 0<br>5      | 0           | 0           | 0           |
| <b>Table 5 - POINTS</b>                                                                                         | 0           | 0           | 0           | 0           |

| Table 6.                                                                                                                                                              | NB Approach    | SB Approach | EB Approach | WB Approach |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|-------------|-------------|-------------|
| <b>Intersection Crossing Distance for the approach</b>                                                                                                                |                |             |             |             |
| <ul style="list-style-type: none"><li>&lt; 3 motor vehicle travel lanes</li><li>4 to 5 motor vehicle travel lanes</li><li>&gt; 5 motor vehicle travel lanes</li></ul> | 0<br>-5<br>-10 | 0           | 0           | 0           |
| <b>Table 6 - POINTS</b>                                                                                                                                               | 0              | 0           | 0           | 0           |
| <b>Approach Total Approach LOS</b>                                                                                                                                    | 30             | 30          | 45          | 45          |
| <b>Intersection Average Intersection LOS</b>                                                                                                                          | B              | C           | D           | D           |

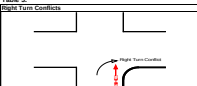
**BICYCLE LEVEL OF SERVICE Worksheet**  
(to be used for Signalized Intersections)

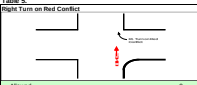
Intersection: **Cooking Rd and Stevens Mill Road**  
Date: **6/8/2020**

Select points from Tables 1-6 on the left hand side of spreadsheet and enter the numerical value into the appropriate YELLOW highlighted cells on the right. Spreadsheet calculates approach by BMD LOS and overall intersection BMD LOS.

| Table 1.                                                                                                                                                                              | NB Approach        | SB Approach            | EB Approach            | WB Approach            |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|------------------------|------------------------|------------------------|
| <b>SIGNAL FEATURES</b>                                                                                                                                                                | <b>Cooking Rd</b>  | <b>Stevens Mill Rd</b> | <b>Stevens Mill Rd</b> | <b>Stevens Mill Rd</b> |
| <b>A. Auto Left Turn Phase (opposing cyclists)</b>                                                                                                                                    |                    |                        |                        |                        |
|                                                                                                      |                    |                        |                        |                        |
| <ul style="list-style-type: none"><li>Made on Green Ball only</li><li>Made on Leading Green Arrow/Green Ball</li><li>Made on Green Arrow Only</li><li>No Left Turn Conflict</li></ul> | 0<br>5<br>15<br>15 | 0<br>0<br>0<br>0       | 0<br>0<br>0<br>0       | 0<br>0<br>0<br>0       |
| Table 1A - POINTS                                                                                                                                                                     | 15                 | 0                      | 0                      | 15                     |
| <b>B. STOP BAR LOCATION</b>                                                                                                                                                           |                    |                        |                        |                        |
|                                                                                                      |                    |                        |                        |                        |
| <ul style="list-style-type: none"><li>Shared stop bar for bikes &amp; autos</li><li>Advanced stop bar for bikes or bike box</li></ul>                                                 | 0<br>10            | 0<br>0                 | 0<br>0                 | 0<br>0                 |
| Table 1B - POINTS                                                                                                                                                                     | 0                  | 0                      | 0                      | 0                      |
| Table 1 - POINTS                                                                                                                                                                      | 15                 | 0                      | 0                      | 15                     |

| Table 2.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | NB Approach                          | SB Approach                          | EB Approach                          | WB Approach                          |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|
| <b>Bicycle Travel Way</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                      |                                      |                                      |                                      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                      |                                      |                                      |                                      |
| <b>Bike Travels in Approach/Departure Lane</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                      |                                      |                                      |                                      |
| <ul style="list-style-type: none"><li>Shared Auto Lane to Shared Auto Lane (lane &lt; 12' wide)</li><li>Shared Auto Lane (lane &lt; 12' wide) to Wide Curb Lane (lane &lt; 14' wide)</li><li>Shared Auto Lane (lane &lt; 12' wide) to Bike Lane</li><li>Shared Wide Curb Lane (12' to 14' wide) to Shared Auto Lane (lane &lt; 12' wide)</li><li>Shared Wide Curb Lane (lane &lt; 12' wide) to Wide Curb Lane (lane &lt; 14' wide)</li><li>Shared Wide Curb Lane (lane &lt; 12' wide) to Bike Lane</li><li>Bike Lane to Shared Auto Lane (lane &lt; 12' wide)</li><li>Bike Lane to Wide Curb Lane (12' to 14' wide)</li><li>Bike Lane to Bike Lane</li></ul> | 0-40 mph<br>30 to 35 mph<br>< 30 mph | 0-40 mph<br>30 to 35 mph<br>< 30 mph | 0-40 mph<br>30 to 35 mph<br>< 30 mph | 0-40 mph<br>30 to 35 mph<br>< 30 mph |
| Table 2A - POINTS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 30                                   | 5                                    | 5                                    | 5                                    |

| Table 3.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | NB Approach                                         | SB Approach                                    | EB Approach                                    | WB Approach                                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|------------------------------------------------|------------------------------------------------|-------------------------------------------------|
| <b>Right Turn Conflicts</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                     |                                                |                                                |                                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                     |                                                |                                                |                                                 |
| <ul style="list-style-type: none"><li>No Conflict with Right Turning Motorist (e.g., "T" intersection, one-way street)</li><li>Bike in Shared Thru-Right Lane</li><li>Bike Lane Right of Shared Thru-Right Lane</li><li>Separate Right Turn Lane Provided (see Figure 1a-f)</li><li>Condition A in Figure 1a-f</li><li>Condition B in Figure 1a-f</li><li>Condition C in Figure 1a-f</li><li>Condition D in Figure 1a-f</li><li>Condition E in Figure 1a-f</li><li>Condition F in Figure 1a-f</li></ul> | 15<br>0<br>-5<br>0<br>10<br>0<br>0<br>0<br>0<br>-20 | 0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0 | 0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0 | 15<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0 |
| Table 3A - POINTS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 15                                                  | 0                                              | 0                                              | 15                                              |

| Table 5.                                                                                                        | NB Approach | SB Approach | EB Approach | WB Approach |
|-----------------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|-------------|
| <b>Right Turn on Red Conflict</b>                                                                               |             |             |             |             |
|                              |             |             |             |             |
| <ul style="list-style-type: none"><li>Allowed</li><li>Prohibited (or there is no right turn conflict)</li></ul> | 0<br>5      | 0<br>0      | 0<br>0      | 0<br>0      |
| Table 5 - POINTS                                                                                                | 0           | 0           | 0           | 0           |

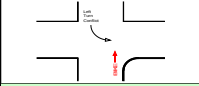
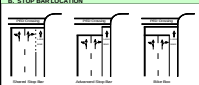
| Table 6.                                                                                                                                                              | NB Approach    | SB Approach | EB Approach | WB Approach |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|-------------|-------------|-------------|
| <b>Intersection Crossing Distance for Truckload</b>                                                                                                                   |                |             |             |             |
| <ul style="list-style-type: none"><li>&lt; 3 motor vehicle travel lanes</li><li>4 to 5 motor vehicle travel lanes</li><li>&gt; 5 motor vehicle travel lanes</li></ul> | 0<br>-5<br>-10 | 0<br>0<br>0 | 0<br>0<br>0 | 0<br>0<br>0 |
| Table 6 - POINTS                                                                                                                                                      | 0              | 0           | 0           | 0           |

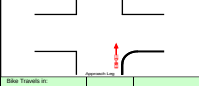
|                      | NB Approach | SB Approach | EB Approach | WB Approach |
|----------------------|-------------|-------------|-------------|-------------|
| Approach Total       | 15          | 0           | 5           | 15          |
| Approach LOS         | D           | F           | F           | D           |
| Intersection Average | 32          |             |             |             |
| Intersection LOS     | E           |             |             |             |

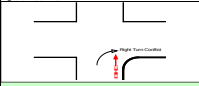
**BICYCLE LEVEL OF SERVICE Worksheet**  
(to be used for Signalized Intersections)

Intersection: **Cooking Rd and Stevens Mill Road (Future)**  
Date: **6/8/2020**

Select points from Tables 1-6 on the left hand side of spreadsheet and enter the numerical value into the appropriate YELLOW highlighted cells on the right. Spreadsheet calculates approach by BMD LOS and overall intersection BMD LOS.

| Table 1.                                                                                                                                                                              | NB Approach       | SB Approach            | EB Approach            | WB Approach            |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|------------------------|------------------------|------------------------|
| <b>SIGNAL FEATURES</b>                                                                                                                                                                | <b>Cooking Rd</b> | <b>Stevens Mill Rd</b> | <b>Stevens Mill Rd</b> | <b>Stevens Mill Rd</b> |
| <b>A. Auto Left Turn Phase (opposing cycles)</b>                                                                                                                                      |                   |                        |                        |                        |
|                                                                                                      |                   |                        |                        |                        |
| <ul style="list-style-type: none"><li>Made on Green Ball only</li><li>Made on Leading Green Arrow/Green Ball</li><li>Made on Green Arrow Only</li><li>No Left Turn Conflict</li></ul> | 0<br>5<br>15      | 0<br>5<br>15           | 0<br>5<br>15           | 0<br>5<br>15           |
| <b>Table 1A - POINTS</b>                                                                                                                                                              | 15                | 0                      | 0                      | 15                     |
| <b>B. STOP BAR LOCATION</b>                                                                                                                                                           |                   |                        |                        |                        |
|                                                                                                      |                   |                        |                        |                        |
| <ul style="list-style-type: none"><li>Shared stop bar for bikes &amp; autos</li><li>Advanced stop bar for bikes or bike box</li></ul>                                                 | 0<br>10           | 0<br>10                | 0<br>10                | 0<br>10                |
| <b>Table 1B - POINTS</b>                                                                                                                                                              | 0                 | 0                      | 0                      | 0                      |
| <b>Table 1 - POINTS</b>                                                                                                                                                               | 15                | 0                      | 0                      | 15                     |

| Table 2.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | NB Approach                          | SB Approach                          | EB Approach                          | WB Approach                          |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|
| <b>Bicycle Travel Way</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                      |                                      |                                      |                                      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                      |                                      |                                      |                                      |
| <b>Bike Travels in Approach/Departure Lane</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                      |                                      |                                      |                                      |
| <ul style="list-style-type: none"><li>Shared Auto Lane to Shared Auto Lane (lane &lt; 12' wide)</li><li>Shared Auto Lane (lane &lt; 12' wide) to Wide Curb Lane (lane &lt; 12' wide)</li><li>Shared Auto Lane (lane &lt; 12' wide) to Bike Lane</li><li>Shared Wide Curb Lane (lane &lt; 12' wide) to Shared Auto Lane (lane &lt; 12' wide)</li><li>Shared Wide Curb Lane (lane &lt; 12' wide) to Wide Curb Lane (lane &lt; 12' wide)</li><li>Shared Wide Curb Lane (lane &lt; 12' wide) to Bike Lane</li><li>Bike Lane to Shared Auto Lane (lane &lt; 12' wide)</li><li>Bike Lane to Wide Curb Lane (lane &lt; 12' wide)</li><li>Bike Lane to Bike Lane</li></ul> | 0-40 mph<br>30 to 35 mph<br>< 30 mph | 0-40 mph<br>30 to 35 mph<br>< 30 mph | 0-40 mph<br>30 to 35 mph<br>< 30 mph | 0-40 mph<br>30 to 35 mph<br>< 30 mph |
| <b>Table 2A - POINTS</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 30                                   | 5                                    | 5                                    | 30                                   |

| Table 3.                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | NB Approach                                         | SB Approach                                    | EB Approach                                    | WB Approach                                     |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|------------------------------------------------|------------------------------------------------|-------------------------------------------------|
| <b>Right Turn Conflicts</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                     |                                                |                                                |                                                 |
|                                                                                                                                                                                                                                                                                                                                                                                         |                                                     |                                                |                                                |                                                 |
| <ul style="list-style-type: none"><li>No Conflict with Right Turning Motorist (i.e., "T" intersection, one-way street)</li><li>Bike in Shared Thru-Right Lane</li><li>Bike Lane Right of Shared Thru-Right Lane</li><li>Separate Right Turn Lane Provided (see Figure below)</li><li>Condition A in Figure below</li><li>Condition B in Figure below</li><li>Condition C in Figure below</li><li>Condition D in Figure below</li><li>Condition E in Figure below</li></ul> | 15<br>0<br>-5<br>0<br>10<br>0<br>0<br>0<br>0<br>-20 | 0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0 | 0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0 | 15<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0 |
| <b>Table 3A - POINTS</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 15                                                  | 0                                              | 0                                              | 15                                              |

| Table 5.                                                                                                        | NB Approach | SB Approach | EB Approach | WB Approach |
|-----------------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|-------------|
| <b>Right Turn on Red Conflict</b>                                                                               |             |             |             |             |
|                              |             |             |             |             |
| <ul style="list-style-type: none"><li>Allowed</li><li>Prohibited (or there is no right turn conflict)</li></ul> | 0<br>5      | 0<br>5      | 0<br>5      | 0<br>5      |
| <b>Table 5 - POINTS</b>                                                                                         | 0           | 0           | 0           | 0           |

| Table 6.                                                                                                                                                              | NB Approach    | SB Approach    | EB Approach    | WB Approach    |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------------|----------------|----------------|
| <b>Intersection Crossing Distance for Boulevards</b>                                                                                                                  |                |                |                |                |
| <ul style="list-style-type: none"><li>&lt; 3 motor vehicle travel lanes</li><li>4 to 5 motor vehicle travel lanes</li><li>&gt; 5 motor vehicle travel lanes</li></ul> | 0<br>-5<br>-10 | 0<br>-5<br>-10 | 0<br>-5<br>-10 | 0<br>-5<br>-10 |
| <b>Table 6 - POINTS</b>                                                                                                                                               | 0              | 0              | 0              | 0              |

|                                              | NB Approach | SB Approach | EB Approach | WB Approach |
|----------------------------------------------|-------------|-------------|-------------|-------------|
| <b>Approach Total Approach LOS</b>           | 15          | 0           | 0           | 15          |
| <b>Intersection Average Intersection LOS</b> | 15          | 0           | 0           | 15          |

**BICYCLE LEVEL OF SERVICE Worksheet**  
(to be used for Signalized Intersections)

Intersection: **Sidings Road and Access #1**  
Date: **6/8/2025**

Select points from Tables 1-6 on the left hand side of spreadsheet and enter the numerical value into the appropriate YELLOW highlighted cells on the right. Spreadsheet calculates approach by BIKELOS and overall intersection BIKELOS.

| Table 1.                                                                                                                                                                              | NB Approach         | SB Approach         | EB Approach     | WB Approach     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---------------------|-----------------|-----------------|
| <b>SIGNAL FEATURES</b>                                                                                                                                                                | <b>Station Road</b> | <b>Station Road</b> | <b>Access 1</b> | <b>Access 1</b> |
| <b>A. Auto Left Turn Phase (opposing cyclists)</b>                                                                                                                                    |                     |                     |                 |                 |
|                                                                                                                                                                                       |                     |                     |                 |                 |
| <ul style="list-style-type: none"><li>Made on Green Ball only</li><li>Made on Leading Green Arrow/Green Ball</li><li>Made on Green Arrow Only</li><li>No Left Turn Conflict</li></ul> | 0                   | 0                   | 15              | 1               |
| Table 1A - POINTS                                                                                                                                                                     | 0                   | 0                   | 15              | 1               |
| <b>B. STOP BAR LOCATION</b>                                                                                                                                                           |                     |                     |                 |                 |
|                                                                                                                                                                                       |                     |                     |                 |                 |
| <ul style="list-style-type: none"><li>Shared stop bar for bikes &amp; autos</li><li>Advanced stop bar for bikes or bike box</li></ul>                                                 | 0                   | 0                   | 0               | 0               |
| Table 1B - POINTS                                                                                                                                                                     | 0                   | 0                   | 0               | 0               |
| Table 1 - POINTS                                                                                                                                                                      | 0                   | 0                   | 15              | 1               |

| Table 2.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | NB Approach | SB Approach | EB Approach | WB Approach |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|-------------|
| <b>Bicycle Travel Way</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |             |             |             |             |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |             |             |             |             |
| <b>Bike Transitions to Approach/Departure Lane</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |             |             |             |             |
| <ul style="list-style-type: none"><li>Shared Auto Lane to Shared Auto Lane (lane &lt; 12' wide)</li><li>Shared Auto Lane (lane &lt; 12' wide) to Wide Curb Lane (lane &lt; 14' wide)</li><li>Shared Auto Lane (lane &lt; 12' wide) to Bike Lane</li><li>Shared Wide Curb Lane (12' to 14' wide) to Shared Auto Lane (lane &lt; 12' wide)</li><li>Shared Wide Curb Lane (lane &lt; 12' wide) to Wide Curb Lane (lane &lt; 14' wide)</li><li>Shared Wide Curb Lane (lane &lt; 12' wide) to Bike Lane</li><li>Bike Lane to Shared Auto Lane (lane &lt; 12' wide)</li><li>Bike Lane to Wide Curb Lane (12' to 14' wide)</li><li>Bike Lane to Bike Lane</li></ul> | 5           | 5           | 50          | 50          |
| Table 2 - POINTS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 5           | 5           | 50          | 50          |

| Table 3.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | NB Approach | SB Approach | EB Approach | WB Approach |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|-------------|
| <b>Right Turn Conflicts</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |             |             |             |             |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |             |             |             |             |
| <ul style="list-style-type: none"><li>No Conflict with Right Turning Motorist (e.g., "T" intersection, one-way street)</li><li>Bike in Shared Thru-Right Lane<ul style="list-style-type: none"><li>Bike lane drops prior to intersection</li><li>Bike lane extends to intersection</li></ul></li><li>Separate Right Turn Lane Provided (see Figure below)<ul style="list-style-type: none"><li>Bike lane to left of right turn lane</li><li>Conflict in Figure below</li><li>Conflict in Figure below</li><li>No bike lane</li><li>Conflict in Figure below</li><li>Conflict in Figure below</li><li>Conflict in Figure below</li><li>Conflict in Figure below</li></ul></li></ul> | 15          | 0           | 0           | 0           |
| Table 3 - POINTS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 15          | 0           | 0           | 0           |

| Table 5.                                                                                                        | NB Approach | SB Approach | EB Approach | WB Approach |
|-----------------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|-------------|
| <b>Right Turn on Red Conflict</b>                                                                               |             |             |             |             |
|                                                                                                                 |             |             |             |             |
| <ul style="list-style-type: none"><li>Allowed</li><li>Prohibited (or there is no right turn conflict)</li></ul> | 0           | 0           | 5           | 5           |
| Table 5 - POINTS                                                                                                | 0           | 0           | 5           | 5           |

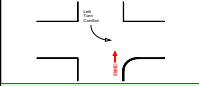
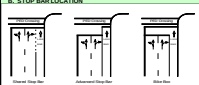
| Table 6.                                                                                                                                                              | NB Approach | SB Approach | EB Approach | WB Approach |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|-------------|
| <b>Intersection Crossing Distance for Boulevards</b>                                                                                                                  |             |             |             |             |
| <ul style="list-style-type: none"><li>&lt; 3 motor vehicle travel lanes</li><li>4 to 5 motor vehicle travel lanes</li><li>&gt; 5 motor vehicle travel lanes</li></ul> | 0           | 0           | 0           | 0           |
| Table 6 - POINTS                                                                                                                                                      | 0           | 0           | 0           | 0           |

| Approach Total Approach LOS           | NB Approach | SB Approach | EB Approach | WB Approach |
|---------------------------------------|-------------|-------------|-------------|-------------|
|                                       | 5           | 5           | 20          | 50          |
| Intersection Average Intersection LOS | 5           | 5           | 20          | 50          |

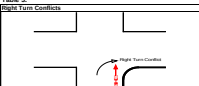
**BICYCLE LEVEL OF SERVICE Worksheet**  
(to be used for Signalized Intersections)

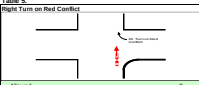
Intersection: **Carpenter Road and Access #2**  
Date: **6/8/2020**

Select points from Tables 1-4 on the left hand side of spreadsheet and enter the numerical value into the appropriate YELLOW highlighted cells on the right. Spreadsheet calculates approach by BMD LOS and overall intersection BMD LOS.

| Table 1.                                                                                                                                                                              | NB Approach         | SB Approach         | EB Approach        | WB Approach      |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---------------------|--------------------|------------------|
| <b>SIGNAL FEATURES</b>                                                                                                                                                                | <b>Carpenter Rd</b> | <b>Carpenter Rd</b> | <b>Access #2</b>   |                  |
| <b>A. Auto Left Turn Phase (opposing cyclists)</b>                                                                                                                                    |                     |                     |                    |                  |
|                                                                                                      |                     |                     |                    |                  |
| <ul style="list-style-type: none"><li>Made on Green Ball only</li><li>Made on Leading Green Arrow/Green Ball</li><li>Made on Green Arrow Only</li><li>No Left Turn Conflict</li></ul> | 0<br>5<br>15<br>15  | 0<br>15<br>15<br>0  | 0<br>15<br>15<br>0 | 0<br>0<br>0<br>0 |
| Table 1A - POINTS                                                                                                                                                                     | 15                  | 0                   | 15                 | 0                |
| <b>B. STOP BAR LOCATION</b>                                                                                                                                                           |                     |                     |                    |                  |
|                                                                                                      |                     |                     |                    |                  |
| <ul style="list-style-type: none"><li>Shared stop bar for bikes &amp; autos</li><li>Advanced stop bar for bikes or bike box</li></ul>                                                 | 0<br>10             | 0<br>0              | 0<br>0             | 0<br>0           |
| Table 1B - POINTS                                                                                                                                                                     | 0                   | 0                   | 0                  | 0                |
| Table 1 - POINTS                                                                                                                                                                      | 15                  | 0                   | 15                 | 0                |

| Table 2.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | NB Approach                          | SB Approach   | EB Approach    | WB Approach |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|---------------|----------------|-------------|
| <b>Bicycle Travel Way</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                      |               |                |             |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                      |               |                |             |
| <b>Bike Transitions in Approach (Opposite Lane)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                      |               |                |             |
| <ul style="list-style-type: none"><li>Shared Auto Lane to Shared Auto Lane (lane &lt; 12' wide)</li><li>Shared Auto Lane (lane &lt; 12' wide) to Wide Curb Lane (lane &lt; 14' wide)</li><li>Shared Auto Lane (lane &lt; 12' wide) to Bike Lane</li><li>Shared Wide Curb Lane (12' to 14' wide) to Shared Auto Lane (lane &lt; 12' wide)</li><li>Shared Wide Curb Lane (lane &lt; 12' wide) to Wide Curb Lane (lane &lt; 14' wide)</li><li>Shared Wide Curb Lane (lane &lt; 12' wide) to Bike Lane</li><li>Bike Lane to Shared Auto Lane (lane &lt; 12' wide)</li><li>Bike Lane to Wide Curb Lane (12' to 14' wide)</li><li>Bike Lane to Bike Lane</li></ul> | 0-40 mph<br>30 to 35 mph<br>< 30 mph | 5<br>30<br>50 | 30<br>30<br>50 | 0<br>0<br>0 |
| Table 2 - POINTS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 30                                   | 30            | 50             | 0           |

| Table 3.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | NB Approach        | SB Approach      | EB Approach      | WB Approach      |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|------------------|------------------|------------------|
| <b>Right Turn Conflicts</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                    |                  |                  |                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                    |                  |                  |                  |
| <ul style="list-style-type: none"><li>No Conflict with Right Turning Motorist (e.g., "T" intersection, one-way street)</li><li>Bike in Shared Thru-Right Lane<ul style="list-style-type: none"><li>Bike lane drops prior to intersection</li><li>Bike lane extends to intersection</li></ul></li><li>Separate Right Turn Lane Provided (see Figure below)<ul style="list-style-type: none"><li>Bike lane is left of right turn lane</li><li>Condition A in Figure below</li><li>Curb lane becomes right turn lane, bike lane left of Condition A in Figure below</li><li>No bike lane</li><li>Condition C in Figure below</li><li>Curb lane becomes right turn lane, no bike lane</li><li>Figure D in PED &amp; BMD LOS Methodology</li><li>Bike lane right of right turn lane</li><li>Figure E in PED &amp; BMD LOS Methodology</li></ul></li></ul> | 15<br>0<br>-5<br>0 | 0<br>0<br>0<br>0 | 0<br>0<br>0<br>0 | 0<br>0<br>0<br>0 |
| Table 3 - POINTS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 15                 | 0                | 0                | 0                |

| Table 5.                                                                                                        | NB Approach | SB Approach | EB Approach | WB Approach |
|-----------------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|-------------|
| <b>Right Turn on Red Conflict</b>                                                                               |             |             |             |             |
|                              |             |             |             |             |
| <ul style="list-style-type: none"><li>Allowed</li><li>Prohibited (or there is no right turn conflict)</li></ul> | 0<br>5      | 0<br>5      | 0<br>5      | 0<br>0      |
| Table 5 - POINTS                                                                                                | 0           | 0           | 5           | 0           |

| Table 6.                                                                                                                                                              | NB Approach    | SB Approach | EB Approach | WB Approach |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|-------------|-------------|-------------|
| <b>Intersection Crossing Distance for Boulevards</b>                                                                                                                  |                |             |             |             |
| <ul style="list-style-type: none"><li>&lt; 3 motor vehicle travel lanes</li><li>4 to 5 motor vehicle travel lanes</li><li>&gt; 5 motor vehicle travel lanes</li></ul> | 0<br>-5<br>-10 | 0<br>0<br>0 | 0<br>0<br>0 | 0<br>0<br>0 |
| Table 6 - POINTS                                                                                                                                                      | 0              | 0           | 0           | 0           |

|                       | NB Approach | SB Approach | EB Approach | WB Approach |
|-----------------------|-------------|-------------|-------------|-------------|
| Approach Total:       | (A)         | (B)         | (C)         | (D)         |
| Approach LOS:         | C           | E           | C           | F           |
| Intersection Average: | SS          |             |             |             |
| Intersection LOS:     | C           |             |             |             |

Intersection: Sweet Birch Drive and Access #3  
Date: 9/8/2020

| Table 1.                                                                                                                                                                                                                                                                                                                                                                                              | NB Approach                                                                                                                                            | SB Approach                                                                                                                                            | EB Approach                                                                                                                                            | WB Approach                                                                                                                                            |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| SIGNAL FEATURES                                                                                                                                                                                                                                                                                                                                                                                       | APPROACH #3                                                                                                                                            | APPROACH #3                                                                                                                                            | Street South 09                                                                                                                                        | Street South 19                                                                                                                                        |
| <p data-bbox="602 289 753 296"><b>A. Auto Left Turn Phase (opening cycles)</b></p>  <ul data-bbox="602 357 753 390" style="list-style-type: none"> <li>• Made out Green Ball only</li> <li>• Made on Leading Green Arrow/Green Ball</li> <li>• Made out Green Arrow only</li> <li>• No Left Turn Conflict</li> </ul> | <p data-bbox="753 289 812 296">0</p> <p data-bbox="753 296 812 302">15</p> <p data-bbox="753 302 812 308">15</p> <p data-bbox="753 308 812 317">15</p> | <p data-bbox="812 289 868 296">0</p> <p data-bbox="812 296 868 302">15</p> <p data-bbox="812 302 868 308">15</p> <p data-bbox="812 308 868 317">15</p> | <p data-bbox="868 289 925 296">0</p> <p data-bbox="868 296 925 302">15</p> <p data-bbox="868 302 925 308">15</p> <p data-bbox="868 308 925 317">15</p> | <p data-bbox="925 289 982 296">0</p> <p data-bbox="925 296 982 302">15</p> <p data-bbox="925 302 982 308">15</p> <p data-bbox="925 308 982 317">15</p> |
| Table 1a. POINTS                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                        |                                                                                                                                                        |                                                                                                                                                        |                                                                                                                                                        |
| 0                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                        |                                                                                                                                                        |                                                                                                                                                        |                                                                                                                                                        |
| 15                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                        |                                                                                                                                                        |                                                                                                                                                        |                                                                                                                                                        |
| 15                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                        |                                                                                                                                                        |                                                                                                                                                        |                                                                                                                                                        |
| 15                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                        |                                                                                                                                                        |                                                                                                                                                        |                                                                                                                                                        |
| 15                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                        |                                                                                                                                                        |                                                                                                                                                        |                                                                                                                                                        |
| 15                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                        |                                                                                                                                                        |                                                                                                                                                        |                                                                                                                                                        |
| 15                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                        |                                                                                                                                                        |                                                                                                                                                        |                                                                                                                                                        |
| 15                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                        |                                                                                                                                                        |                                                                                                                                                        |                                                                                                                                                        |
| 15                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                        |                                                                                                                                                        |                                                                                                                                                        |                                                                                                                                                        |
| 15                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                        |                                                                                                                                                        |                                                                                                                                                        |                                                                                                                                                        |
| 15                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                        |                                                                                                                                                        |                                                                                                                                                        |                                                                                                                                                        |
| 15                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                        |                                                                                                                                                        |                                                                                                                                                        |                                                                                                                                                        |
| 15                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                        |                                                                                                                                                        |                                                                                                                                                        |                                                                                                                                                        |
| 15                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                        |                                                                                                                                                        |                                                                                                                                                        |                                                                                                                                                        |
| 15                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                        |                                                                                                                                                        |                                                                                                                                                        |                                                                                                                                                        |
| 15                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                        |                                                                                                                                                        |                                                                                                                                                        |                                                                                                                                                        |
| 15                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                        |                                                                                                                                                        |                                                                                                                                                        |                                                                                                                                                        |
| 15                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                        |                                                                                                                                                        |                                                                                                                                                        |                                                                                                                                                        |
| 15                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                        |                                                                                                                                                        |                                                                                                                                                        |                                                                                                                                                        |
| 15                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                        |                                                                                                                                                        |                                                                                                                                                        |                                                                                                                                                        |
| 15                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                        |                                                                                                                                                        |                                                                                                                                                        |                                                                                                                                                        |
| 15                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                        |                                                                                                                                                        |                                                                                                                                                        |                                                                                                                                                        |
| 15                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                        |                                                                                                                                                        |                                                                                                                                                        |                                                                                                                                                        |
| 15                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                        |                                                                                                                                                        |                                                                                                                                                        |                                                                                                                                                        |
| 15                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                        |                                                                                                                                                        |                                                                                                                                                        |                                                                                                                                                        |
| 15                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                        |                                                                                                                                                        |                                                                                                                                                        |                                                                                                                                                        |
| 15                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                        |                                                                                                                                                        |                                                                                                                                                        |                                                                                                                                                        |

[illegible]

|                                     | NR Approach | SB Approach | EB Approach | WB Approach |
|-------------------------------------|-------------|-------------|-------------|-------------|
| • 3 motor vehicle travel lanes      | 0           | 0           | 0           | 0           |
| • 4 to 5 motor vehicle travel lanes | -5          |             |             |             |
| • 6 motor vehicle travel lanes      | -10         |             |             |             |
| • 7 motor vehicle travel lanes      | 0           | 0           | 0           | 0           |

|                       | NS Approach | SB Approach | EB Approach | WB Approach |
|-----------------------|-------------|-------------|-------------|-------------|
| Approach Total:       | 0           | 70          | 85          | 50          |
| Approach LOS:         | F           | C+          | B           | D           |
| Intersection Average: | 68          |             |             |             |
| Intersection LOS:     | C           |             |             |             |

## Crash Data





**North Carolina Department of Transportation  
Traffic Engineering Accident Analysis System  
Intersection Analysis Report**

**Study Criteria Summary**

**County:** UNION **City:** All and Rural  
**Date:** 07/01/2017 to 06/30/2020 **Study:** 41000061605  
**Location:** SR 1365 (Stallings Rd) at SR 1524 (Stevens Mill Rd)

**Report Details**

| Acc No | Crash ID  | Date                | Accident Type                 | Total Damage         | Injuries |   |   |    | Condition |   |   | Road |    | Trfc Ctl |    |
|--------|-----------|---------------------|-------------------------------|----------------------|----------|---|---|----|-----------|---|---|------|----|----------|----|
|        |           |                     |                               |                      | F        | A | B | C  | R         | L | W | Ch   | Ci | Dv       | Op |
| 1      | 105355168 | 01/18/2018<br>13:37 | RAN OFF ROAD - RIGHT          | \$ 1000              | 0        | 0 | 0 | 0  | 4         | 1 | 1 | 1    | 0  | 0        |    |
| Unit   | 1 : 2     | Alchl/Drgs: 0       | Speed: 20 MPH Dir: N          | Veh Mnvr / Ped Actn: |          |   |   | 4  | Obj Strk: |   |   | 33   |    |          |    |
| 2      | 105397004 | 03/02/2018<br>08:01 | SIDESWIPE, OPPOSITE DIRECTION | \$ 9000              | 0        | 0 | 0 | 0  | 1         | 1 | 1 | 1    | 0  | 1        | 1  |
| Unit   | 1 : 2     | Alchl/Drgs: 0       | Speed: 15 MPH Dir: N          | Veh Mnvr / Ped Actn: |          |   |   | 7  | Obj Strk: |   |   |      |    |          |    |
| Unit   | 2 : 2     | Alchl/Drgs: 0       | Speed: 0 MPH Dir: S           | Veh Mnvr / Ped Actn: |          |   |   | 1  | Obj Strk: |   |   |      |    |          |    |
| Unit   | 3 : 4     | Alchl/Drgs: 0       | Speed: 0 MPH Dir: S           | Veh Mnvr / Ped Actn: |          |   |   | 1  | Obj Strk: |   |   |      |    |          |    |
| Unit   | 4 : 2     | Alchl/Drgs: 0       | Speed: 0 MPH Dir: S           | Veh Mnvr / Ped Actn: |          |   |   | 1  | Obj Strk: |   |   |      |    |          |    |
| 3      | 105453064 | 04/20/2018<br>17:57 | ANGLE                         | \$ 4000              | 0        | 0 | 0 | 0  | 1         | 1 | 1 | 1    | 0  | 1        | 1  |
| Unit   | 1 : 5     | Alchl/Drgs: 7       | Speed: 35 MPH Dir: S          | Veh Mnvr / Ped Actn: |          |   |   | 4  | Obj Strk: |   |   |      |    |          |    |
| Unit   | 2 : 1     | Alchl/Drgs: 0       | Speed: 15 MPH Dir: E          | Veh Mnvr / Ped Actn: |          |   |   | 4  | Obj Strk: |   |   |      |    |          |    |
| 4      | 105478127 | 05/07/2018<br>13:26 | ANGLE                         | \$ 7000              | 0        | 0 | 0 | 0  | 1         | 1 | 1 | 1    | 0  | 13       | 1  |
| Unit   | 1 : 4     | Alchl/Drgs: 0       | Speed: 25 MPH Dir: E          | Veh Mnvr / Ped Actn: |          |   |   | 4  | Obj Strk: |   |   |      |    |          |    |
| Unit   | 2 : 1     | Alchl/Drgs: 7       | Speed: 0 MPH Dir: S           | Veh Mnvr / Ped Actn: |          |   |   | 4  | Obj Strk: |   |   |      |    |          |    |
| 5      | 105666644 | 11/07/2018<br>07:46 | LEFT TURN, DIFFERENT ROADWAYS | \$ 17000             | 0        | 0 | 0 | 0  | 1         | 1 | 1 | 1    | 0  | 1        | 1  |
| Unit   | 1 : 2     | Alchl/Drgs: 0       | Speed: 25 MPH Dir: S          | Veh Mnvr / Ped Actn: |          |   |   | 8  | Obj Strk: |   |   |      |    |          |    |
| Unit   | 2 : 1     | Alchl/Drgs: 0       | Speed: 0 MPH Dir: W           | Veh Mnvr / Ped Actn: |          |   |   | 1  | Obj Strk: |   |   |      |    |          |    |
| 6      | 105802984 | 03/14/2019<br>10:38 | SIDESWIPE, SAME DIRECTION     | \$ 2100              | 0        | 0 | 0 | 0  | 1         | 1 | 2 | 1    | 0  | 1        | 1  |
| Unit   | 1 : 4     | Alchl/Drgs: 0       | Speed: 10 MPH Dir: SW         | Veh Mnvr / Ped Actn: |          |   |   | 7  | Obj Strk: |   |   |      |    |          |    |
| Unit   | 2 : 1     | Alchl/Drgs: 0       | Speed: 10 MPH Dir: S          | Veh Mnvr / Ped Actn: |          |   |   | 11 | Obj Strk: |   |   |      |    |          |    |
| 7      | 106120286 | 01/09/2020<br>08:14 | ANGLE                         | \$ 3000              | 0        | 0 | 0 | 0  | 1         | 1 | 1 | 1    | 0  | 1        | 1  |
| Unit   | 1 : 5     | Alchl/Drgs: 0       | Speed: 5 MPH Dir: W           | Veh Mnvr / Ped Actn: |          |   |   | 7  | Obj Strk: |   |   |      |    |          |    |
| Unit   | 2 : 1     | Alchl/Drgs: 0       | Speed: 5 MPH Dir: N           | Veh Mnvr / Ped Actn: |          |   |   | 8  | Obj Strk: |   |   |      |    |          |    |

**North Carolina Department of Transportation  
Traffic Engineering Accident Analysis System  
Intersection Analysis Report**

| Acc No | Crash ID  | Date                | Accident Type          | Total Damage           | Injuries |   |   |           | Condition |   |   | Road |    | Trfc Ctl |    |
|--------|-----------|---------------------|------------------------|------------------------|----------|---|---|-----------|-----------|---|---|------|----|----------|----|
|        |           |                     |                        |                        | F        | A | B | C         | R         | L | W | Ch   | Ci | Dv       | Op |
| 8      | 106170906 | 02/29/2020<br>13:26 | REAR END, SLOW OR STOP | \$ 1000                | 0        | 0 | 0 | 2         | 1         | 1 | 1 | 1    | 0  | 1        | 1  |
| Unit   | 1 : 3     | Alchl/Drgs: 0       | Speed: 5 MPH Dir: N    | Veh Mnvr / Ped Actn: 4 |          |   |   | Obj Strk: |           |   |   |      |    |          |    |
| Unit   | 2 : 1     | Alchl/Drgs: 0       | Speed: 0 MPH Dir: N    | Veh Mnvr / Ped Actn: 1 |          |   |   | Obj Strk: |           |   |   |      |    |          |    |

**Legend for  
Report Details:**

Acc No - Accident Number  
Injuries: F - Fatal, A - Class A, B - Class B, C - Class C  
Condition: R - Road Surface, L - Ambient Light, W - Weather  
Rd Ch - Road Character  
Rd Ci - Roadway Contributing Circumstances  
Trfc Ctl - Traffic Control: Dv - Device, Op - Operating  
Alchl/Drgs - Alcohol Drugs Suspected  
Veh Mnvr/Ped Actn - Vehicle Maneuver/Pedestrian Action  
Obj Strk - Object Struck

North Carolina Department of Transportation  
Traffic Engineering Accident Analysis System  
Intersection Analysis Report

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**Summary Statistics**

**High Level Crash Summary**

| <b>Crash Type</b>                 | <b>Number of Crashes</b> | <b>Percent of Total</b> |
|-----------------------------------|--------------------------|-------------------------|
| Total Crashes                     | 8                        | 100.00                  |
| Fatal Crashes                     | 0                        | 0.00                    |
| Non-Fatal Injury Crashes          | 1                        | 12.50                   |
| Total Injury Crashes              | 1                        | 12.50                   |
| Property Damage Only Crashes      | 7                        | 87.50                   |
| Night Crashes                     | 0                        | 0.00                    |
| Wet Crashes                       | 0                        | 0.00                    |
| Alcohol/Drugs Involvement Crashes | 0                        | 0.00                    |

**Crash Severity Summary**

| <b>Crash Type</b>            | <b>Number of Crashes</b> | <b>Percent of Total</b> |
|------------------------------|--------------------------|-------------------------|
| Total Crashes                | 8                        | 100.00                  |
| Fatal Crashes                | 0                        | 0.00                    |
| Class A Crashes              | 0                        | 0.00                    |
| Class B Crashes              | 0                        | 0.00                    |
| Class C Crashes              | 1                        | 12.50                   |
| Property Damage Only Crashes | 7                        | 87.50                   |

**Vehicle Exposure Statistics**

Annual ADT = 10900

Total Vehicle Exposure = 11.95 (MEV)

| <b>Crash Rate</b>    | <b>Crashes Per 100 Million Vehicles Entered</b> |
|----------------------|-------------------------------------------------|
| Total Crash Rate     | 66.97                                           |
| Fatal Crash Rate     | 0.00                                            |
| Non Fatal Crash Rate | 8.37                                            |
| Night Crash Rate     | 0.00                                            |
| Wet Crash Rate       | 0.00                                            |
| EPDO Rate            | 128.91                                          |

**North Carolina Department of Transportation  
Traffic Engineering Accident Analysis System  
Intersection Analysis Report**

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**Miscellaneous Statistics**

|                                      |          |
|--------------------------------------|----------|
| Severity Index =                     | 1.92     |
| EPDO Crash Index =                   | 15.40    |
| Estimated Property Damage Total = \$ | 44100.00 |

**Accident Type Summary**

| <b>Accident Type</b>          | <b>Number of<br/>Crashes</b> | <b>Percent<br/>of Total</b> |
|-------------------------------|------------------------------|-----------------------------|
| ANGLE                         | 3                            | 37.50                       |
| LEFT TURN, DIFFERENT ROADWAYS | 1                            | 12.50                       |
| RAN OFF ROAD - RIGHT          | 1                            | 12.50                       |
| REAR END, SLOW OR STOP        | 1                            | 12.50                       |
| SIDESWIPE, OPPOSITE DIRECTION | 1                            | 12.50                       |
| SIDESWIPE, SAME DIRECTION     | 1                            | 12.50                       |

**Injury Summary**

| <b>Injury Type</b>       | <b>Number of<br/>Injuries</b> | <b>Percent<br/>of Total</b> |
|--------------------------|-------------------------------|-----------------------------|
| Fatal Injuries           | 0                             | 0.00                        |
| Class A Injuries         | 0                             | 0.00                        |
| Class B Injuries         | 0                             | 0.00                        |
| Class C Injuries         | 2                             | 100.00                      |
| Total Non-Fatal Injuries | 2                             | 100.00                      |
| Total Injuries           | 2                             | 100.00                      |

**North Carolina Department of Transportation  
Traffic Engineering Accident Analysis System  
Intersection Analysis Report**

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**Monthly Summary**

| <b>Month</b> | <b>Number of<br/>Crashes</b> | <b>Percent<br/>of Total</b> |
|--------------|------------------------------|-----------------------------|
| Jan          | 2                            | 25.00                       |
| Feb          | 1                            | 12.50                       |
| Mar          | 2                            | 25.00                       |
| Apr          | 1                            | 12.50                       |
| May          | 1                            | 12.50                       |
| Jun          | 0                            | 0.00                        |
| Jul          | 0                            | 0.00                        |
| Aug          | 0                            | 0.00                        |
| Sep          | 0                            | 0.00                        |
| Oct          | 0                            | 0.00                        |
| Nov          | 1                            | 12.50                       |
| Dec          | 0                            | 0.00                        |

**Daily Summary**

| <b>Day</b> | <b>Number of<br/>Crashes</b> | <b>Percent<br/>of Total</b> |
|------------|------------------------------|-----------------------------|
| Mon        | 1                            | 12.50                       |
| Tue        | 0                            | 0.00                        |
| Wed        | 1                            | 12.50                       |
| Thu        | 3                            | 37.50                       |
| Fri        | 2                            | 25.00                       |
| Sat        | 1                            | 12.50                       |
| Sun        | 0                            | 0.00                        |

**North Carolina Department of Transportation  
Traffic Engineering Accident Analysis System  
Intersection Analysis Report**

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**Hourly Summary**

| <b>Hour</b> | <b>Number of<br/>Crashes</b> | <b>Percent<br/>of Total</b> |
|-------------|------------------------------|-----------------------------|
| 0000-0059   | 0                            | 0.00                        |
| 0100-0159   | 0                            | 0.00                        |
| 0200-0259   | 0                            | 0.00                        |
| 0300-0359   | 0                            | 0.00                        |
| 0400-0459   | 0                            | 0.00                        |
| 0500-0559   | 0                            | 0.00                        |
| 0600-0659   | 0                            | 0.00                        |
| 0700-0759   | 1                            | 12.50                       |
| 0800-0859   | 2                            | 25.00                       |
| 0900-0959   | 0                            | 0.00                        |
| 1000-1059   | 1                            | 12.50                       |
| 1100-1159   | 0                            | 0.00                        |
| 1200-1259   | 0                            | 0.00                        |
| 1300-1359   | 3                            | 37.50                       |
| 1400-1459   | 0                            | 0.00                        |
| 1500-1559   | 0                            | 0.00                        |
| 1600-1659   | 0                            | 0.00                        |
| 1700-1759   | 1                            | 12.50                       |
| 1800-1859   | 0                            | 0.00                        |
| 1900-1959   | 0                            | 0.00                        |
| 2000-2059   | 0                            | 0.00                        |
| 2100-2159   | 0                            | 0.00                        |
| 2200-2259   | 0                            | 0.00                        |
| 2300-2359   | 0                            | 0.00                        |

**North Carolina Department of Transportation  
Traffic Engineering Accident Analysis System  
Intersection Analysis Report**

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**Light and Road Conditions Summary**

| Condition | Dry | Wet | Other | Total |
|-----------|-----|-----|-------|-------|
| Day       | 7   | 0   | 1     | 8     |
| Dark      | 0   | 0   | 0     | 0     |
| Other     | 0   | 0   | 0     | 0     |
| Total     | 7   | 0   | 1     | 8     |

**Object Struck Summary**

| Object Type | Times Struck | Percent of Total |
|-------------|--------------|------------------|
| TREE        | 1            | 100.00           |

**Vehicle Type Summary**

| Vehicle Type                  | Number Involved | Percent of Total |
|-------------------------------|-----------------|------------------|
| LIGHT TRUCK (MINI-VAN, PANEL) | 1               | 5.88             |
| PASSENGER CAR                 | 6               | 35.29            |
| PICKUP                        | 5               | 29.41            |
| SPORT UTILITY                 | 3               | 17.65            |
| VAN                           | 2               | 11.76            |

North Carolina Department of Transportation  
Traffic Engineering Accident Analysis System  
Intersection Analysis Report

**Yearly Totals Summary**

**Accident Totals**

| Year  | Total<br>Accidents | Fatal<br>Accidents | Injury<br>Accidents | Property Damage<br>Only Accidents |
|-------|--------------------|--------------------|---------------------|-----------------------------------|
| 2017  | 0                  | 0                  | 0                   | 0                                 |
| 2018  | 5                  | 0                  | 0                   | 5                                 |
| 2019  | 1                  | 0                  | 0                   | 1                                 |
| 2020  | 2                  | 0                  | 1                   | 1                                 |
| Total | 8                  | 0                  | 1                   | 7                                 |

**Injury Totals**

| Year  | Fatal Injuries | Class A, B,<br>or C Injuries |
|-------|----------------|------------------------------|
| 2017  | 0              | 0                            |
| 2018  | 0              | 0                            |
| 2019  | 0              | 0                            |
| 2020  | 0              | 2                            |
| Total | 0              | 2                            |

**Miscellaneous Totals**

| Year  | Property Damage | EPDO Index |
|-------|-----------------|------------|
| 2017  | \$ 0            | 0.00       |
| 2018  | \$ 38000        | 5.00       |
| 2019  | \$ 2100         | 1.00       |
| 2020  | \$ 4000         | 9.40       |
| Total | \$ 44100        | 15.40      |

**Type of Accident Totals**

| Year  | Left Turn | Right Turn | Rear End | Run Off Road &<br>Fixed Object | Angle | Side Swipe | Other |
|-------|-----------|------------|----------|--------------------------------|-------|------------|-------|
| 2017  | 0         | 0          | 0        | 0                              | 0     | 0          | 0     |
| 2018  | 1         | 0          | 0        | 1                              | 2     | 1          | 0     |
| 2019  | 0         | 0          | 0        | 0                              | 0     | 1          | 0     |
| 2020  | 0         | 0          | 1        | 0                              | 1     | 0          | 0     |
| Total | 1         | 0          | 1        | 1                              | 3     | 2          | 0     |



**North Carolina Department of Transportation  
Traffic Engineering Accident Analysis System  
Intersection Analysis Report**

**Study Criteria Summary**

**County:** UNION **City:** All and Rural  
**Date:** 07/01/2017 to 06/30/2020 **Study:** 41000061606  
**Location:** SR 1365 (Stallings Rd) at Sweet Birch Dr

**Report Details**

| Acc No | Crash ID  | Date                | Accident Type          | Total Damage           | Injuries |   |   |           | Condition |   |   | Road |    | Trfc Ctl |    |
|--------|-----------|---------------------|------------------------|------------------------|----------|---|---|-----------|-----------|---|---|------|----|----------|----|
|        |           |                     |                        |                        | F        | A | B | C         | R         | L | W | Ch   | Ci | Dv       | Op |
| 1      | 106127959 | 01/16/2020<br>20:06 | REAR END, SLOW OR STOP | \$ 13000               | 0        | 0 | 1 | 0         | 1         | 5 | 1 | 4    | 0  | 13       | 1  |
| Unit   | 1 : 2     | Alchl/Drgs: 2       | Speed: 50 MPH Dir: S   | Veh Mnvr / Ped Actn: 4 |          |   |   | Obj Strk: |           |   |   |      |    |          |    |
| Unit   | 2 : 2     | Alchl/Drgs: 0       | Speed: 0 MPH Dir: S    | Veh Mnvr / Ped Actn: 8 |          |   |   | Obj Strk: |           |   |   |      |    |          |    |

**Legend for  
Report Details:**

Acc No - Accident Number  
Injuries: F - Fatal, A - Class A, B - Class B, C - Class C  
Condition: R - Road Surface, L - Ambient Light, W - Weather  
Rd Ch - Road Character  
Rd Ci - Roadway Contributing Circumstances  
Trfc Ctl - Traffic Control: Dv - Device, Op - Operating  
Alchl/Drgs - Alcohol Drugs Suspected  
Veh Mnvr/Ped Actn - Vehicle Maneuver/Pedestrian Action  
Obj Strk - Object Struck

North Carolina Department of Transportation  
Traffic Engineering Accident Analysis System  
Intersection Analysis Report

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**Summary Statistics**

**High Level Crash Summary**

| <b>Crash Type</b>                 | <b>Number of Crashes</b> | <b>Percent of Total</b> |
|-----------------------------------|--------------------------|-------------------------|
| Total Crashes                     | 1                        | 100.00                  |
| Fatal Crashes                     | 0                        | 0.00                    |
| Non-Fatal Injury Crashes          | 1                        | 100.00                  |
| Total Injury Crashes              | 1                        | 100.00                  |
| Property Damage Only Crashes      | 0                        | 0.00                    |
| Night Crashes                     | 1                        | 100.00                  |
| Wet Crashes                       | 0                        | 0.00                    |
| Alcohol/Drugs Involvement Crashes | 1                        | 100.00                  |

**Crash Severity Summary**

| <b>Crash Type</b>            | <b>Number of Crashes</b> | <b>Percent of Total</b> |
|------------------------------|--------------------------|-------------------------|
| Total Crashes                | 1                        | 100.00                  |
| Fatal Crashes                | 0                        | 0.00                    |
| Class A Crashes              | 0                        | 0.00                    |
| Class B Crashes              | 1                        | 100.00                  |
| Class C Crashes              | 0                        | 0.00                    |
| Property Damage Only Crashes | 0                        | 0.00                    |

**Vehicle Exposure Statistics**

Annual ADT = 6600

Total Vehicle Exposure = 7.23 (MEV)

| <b>Crash Rate</b>    | <b>Crashes Per 100 Million Vehicles Entered</b> |
|----------------------|-------------------------------------------------|
| Total Crash Rate     | 13.82                                           |
| Fatal Crash Rate     | 0.00                                            |
| Non Fatal Crash Rate | 13.82                                           |
| Night Crash Rate     | 13.82                                           |
| Wet Crash Rate       | 0.00                                            |
| EPDO Rate            | 116.12                                          |

**North Carolina Department of Transportation  
Traffic Engineering Accident Analysis System  
Intersection Analysis Report**

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**Miscellaneous Statistics**

|                                      |          |
|--------------------------------------|----------|
| Severity Index =                     | 8.40     |
| EPDO Crash Index =                   | 8.40     |
| Estimated Property Damage Total = \$ | 13000.00 |

**Accident Type Summary**

| <b>Accident Type</b>   | <b>Number of<br/>Crashes</b> | <b>Percent<br/>of Total</b> |
|------------------------|------------------------------|-----------------------------|
| REAR END, SLOW OR STOP | 1                            | 100.00                      |

**Injury Summary**

| <b>Injury Type</b>       | <b>Number of<br/>Injuries</b> | <b>Percent<br/>of Total</b> |
|--------------------------|-------------------------------|-----------------------------|
| Fatal Injuries           | 0                             | 0.00                        |
| Class A Injuries         | 0                             | 0.00                        |
| Class B Injuries         | 1                             | 100.00                      |
| Class C Injuries         | 0                             | 0.00                        |
| Total Non-Fatal Injuries | 1                             | 100.00                      |
| Total Injuries           | 1                             | 100.00                      |

**North Carolina Department of Transportation  
Traffic Engineering Accident Analysis System  
Intersection Analysis Report**

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**Monthly Summary**

| <b>Month</b> | <b>Number of<br/>Crashes</b> | <b>Percent<br/>of Total</b> |
|--------------|------------------------------|-----------------------------|
| Jan          | 1                            | 100.00                      |
| Feb          | 0                            | 0.00                        |
| Mar          | 0                            | 0.00                        |
| Apr          | 0                            | 0.00                        |
| May          | 0                            | 0.00                        |
| Jun          | 0                            | 0.00                        |
| Jul          | 0                            | 0.00                        |
| Aug          | 0                            | 0.00                        |
| Sep          | 0                            | 0.00                        |
| Oct          | 0                            | 0.00                        |
| Nov          | 0                            | 0.00                        |
| Dec          | 0                            | 0.00                        |

**Daily Summary**

| <b>Day</b> | <b>Number of<br/>Crashes</b> | <b>Percent<br/>of Total</b> |
|------------|------------------------------|-----------------------------|
| Mon        | 0                            | 0.00                        |
| Tue        | 0                            | 0.00                        |
| Wed        | 0                            | 0.00                        |
| Thu        | 1                            | 100.00                      |
| Fri        | 0                            | 0.00                        |
| Sat        | 0                            | 0.00                        |
| Sun        | 0                            | 0.00                        |

**North Carolina Department of Transportation  
Traffic Engineering Accident Analysis System  
Intersection Analysis Report**

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**Hourly Summary**

| <b>Hour</b> | <b>Number of<br/>Crashes</b> | <b>Percent<br/>of Total</b> |
|-------------|------------------------------|-----------------------------|
| 0000-0059   | 0                            | 0.00                        |
| 0100-0159   | 0                            | 0.00                        |
| 0200-0259   | 0                            | 0.00                        |
| 0300-0359   | 0                            | 0.00                        |
| 0400-0459   | 0                            | 0.00                        |
| 0500-0559   | 0                            | 0.00                        |
| 0600-0659   | 0                            | 0.00                        |
| 0700-0759   | 0                            | 0.00                        |
| 0800-0859   | 0                            | 0.00                        |
| 0900-0959   | 0                            | 0.00                        |
| 1000-1059   | 0                            | 0.00                        |
| 1100-1159   | 0                            | 0.00                        |
| 1200-1259   | 0                            | 0.00                        |
| 1300-1359   | 0                            | 0.00                        |
| 1400-1459   | 0                            | 0.00                        |
| 1500-1559   | 0                            | 0.00                        |
| 1600-1659   | 0                            | 0.00                        |
| 1700-1759   | 0                            | 0.00                        |
| 1800-1859   | 0                            | 0.00                        |
| 1900-1959   | 0                            | 0.00                        |
| 2000-2059   | 1                            | 100.00                      |
| 2100-2159   | 0                            | 0.00                        |
| 2200-2259   | 0                            | 0.00                        |
| 2300-2359   | 0                            | 0.00                        |

**North Carolina Department of Transportation  
Traffic Engineering Accident Analysis System  
Intersection Analysis Report**

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**Light and Road Conditions Summary**

| Condition | Dry | Wet | Other | Total |
|-----------|-----|-----|-------|-------|
| Day       | 0   | 0   | 0     | 0     |
| Dark      | 1   | 0   | 0     | 1     |
| Other     | 0   | 0   | 0     | 0     |
| Total     | 1   | 0   | 0     | 1     |

**Vehicle Type Summary**

| Vehicle Type | Number<br>Involved | Percent<br>of Total |
|--------------|--------------------|---------------------|
| PICKUP       | 2                  | 100.00              |

North Carolina Department of Transportation  
Traffic Engineering Accident Analysis System  
Intersection Analysis Report

**Yearly Totals Summary**

**Accident Totals**

| Year  | Total<br>Accidents | Fatal<br>Accidents | Injury<br>Accidents | Property Damage<br>Only Accidents |
|-------|--------------------|--------------------|---------------------|-----------------------------------|
| 2017  | 0                  | 0                  | 0                   | 0                                 |
| 2018  | 0                  | 0                  | 0                   | 0                                 |
| 2019  | 0                  | 0                  | 0                   | 0                                 |
| 2020  | 1                  | 0                  | 1                   | 0                                 |
| Total | 1                  | 0                  | 1                   | 0                                 |

**Injury Totals**

| Year  | Fatal Injuries | Class A, B,<br>or C Injuries |
|-------|----------------|------------------------------|
| 2017  | 0              | 0                            |
| 2018  | 0              | 0                            |
| 2019  | 0              | 0                            |
| 2020  | 0              | 1                            |
| Total | 0              | 1                            |

**Miscellaneous Totals**

| Year  | Property Damage | EPDO Index |
|-------|-----------------|------------|
| 2017  | \$ 0            | 0.00       |
| 2018  | \$ 0            | 0.00       |
| 2019  | \$ 0            | 0.00       |
| 2020  | \$ 13000        | 8.40       |
| Total | \$ 13000        | 8.40       |

**Type of Accident Totals**

| Year  | Run Off Road & |            |          |              |       |            |       |
|-------|----------------|------------|----------|--------------|-------|------------|-------|
|       | Left Turn      | Right Turn | Rear End | Fixed Object | Angle | Side Swipe | Other |
| 2017  | 0              | 0          | 0        | 0            | 0     | 0          | 0     |
| 2018  | 0              | 0          | 0        | 0            | 0     | 0          | 0     |
| 2019  | 0              | 0          | 0        | 0            | 0     | 0          | 0     |
| 2020  | 0              | 0          | 1        | 0            | 0     | 0          | 0     |
| Total | 0              | 0          | 1        | 0            | 0     | 0          | 0     |

North Carolina Department of Transportation  
Traffic Engineering Accident Analysis System  
Intersection Analysis Report

**Study Criteria Summary**

**County:** UNION **City:** All and Rural  
**Date:** 07/01/2017 to 06/30/2020 **Study:** 41000061607  
**Location:** Sweet Birch Dr at Nouvelle Dr \*\*\*No Crashes in Analysis\*\*\*

**Report Details**

**Study Criteria**

| Study Name  | Log No. | PH No. | TIP No. | K/A Cf. | B/C Cf. | ADT  | ADT Route |
|-------------|---------|--------|---------|---------|---------|------|-----------|
| 41000061607 |         |        |         | 76.8    | 8.4     | 1000 |           |

| Request Date | Courier Service | Phone No. | Ext. | Fax No. |
|--------------|-----------------|-----------|------|---------|
|              |                 |           |      |         |

| County |      |      | Municipality  |      |  | Y-Line Ft. | Begin Date | End Date   | Years |
|--------|------|------|---------------|------|--|------------|------------|------------|-------|
| Name   | Code | Div. | Name          | Code |  |            |            |            |       |
| UNION  | 90   | 10   | All and Rural |      |  | 150        | 07/01/2017 | 06/30/2020 | 3.00  |

| Location Text                                              | Requestor |
|------------------------------------------------------------|-----------|
| Sweet Birch Dr at Nouvelle Dr ***No Crashes in Analysis*** |           |

**Fiche Roads**

| Name        | Code     |
|-------------|----------|
| NOUVELLE    | 50046246 |
| SWEET BIRCH | 50046247 |

**Intersection Road Combinations**

| Name        | Code     | Code     | Name     |
|-------------|----------|----------|----------|
| SWEET BIRCH | 50046247 | 50046246 | NOUVELLE |



**North Carolina Department of Transportation  
Traffic Engineering Accident Analysis System  
Intersection Analysis Report**

**Study Criteria Summary**

**County:** UNION **City:** All and Rural  
**Date:** 07/01/2017 to 06/30/2020 **Study:** 41000061610  
**Location:** SR 1365 (Stallings Rd) at SR 3814 (Matthews-Indian Trail Rd)

**Report Details**

| Acc No | Crash ID  | Date                | Accident Type          | Total Damage           | Injuries |              |   |   | Condition |   |   | Road |    | Trfc Ctl |    |
|--------|-----------|---------------------|------------------------|------------------------|----------|--------------|---|---|-----------|---|---|------|----|----------|----|
|        |           |                     |                        |                        | F        | A            | B | C | R         | L | W | Ch   | Ci | Dv       | Op |
| 1      | 105169276 | 07/21/2017<br>12:57 | REAR END, SLOW OR STOP | \$ 2000                | 0        | 0            | 0 | 0 | 1         | 1 | 1 | 2    | 0  | 3        | 1  |
| Unit   | 1 : 4     | Alchl/Drgs: 0       | Speed: 10 MPH Dir: S   | Veh Mnvr / Ped Actn: 4 |          | Obj Strk:    |   |   |           |   |   |      |    |          |    |
| Unit   | 2 : 2     | Alchl/Drgs: 0       | Speed: 0 MPH Dir: S    | Veh Mnvr / Ped Actn: 1 |          | Obj Strk:    |   |   |           |   |   |      |    |          |    |
| 2      | 105287310 | 10/17/2017<br>16:50 | REAR END, SLOW OR STOP | \$ 8500                | 0        | 0            | 0 | 1 | 1         | 1 | 1 | 1    | 0  | 13       | 1  |
| Unit   | 1 : 4     | Alchl/Drgs: 0       | Speed: 30 MPH Dir: N   | Veh Mnvr / Ped Actn: 4 |          | Obj Strk:    |   |   |           |   |   |      |    |          |    |
| Unit   | 2 : 2     | Alchl/Drgs: 0       | Speed: 0 MPH Dir: N    | Veh Mnvr / Ped Actn: 1 |          | Obj Strk:    |   |   |           |   |   |      |    |          |    |
| 3      | 105295626 | 11/21/2017<br>06:27 | ANIMAL                 | \$ 700                 | 0        | 0            | 0 | 0 | 1         | 4 | 1 | 2    | 0  | 0        |    |
| Unit   | 1 : 4     | Alchl/Drgs: 0       | Speed: 35 MPH Dir: W   | Veh Mnvr / Ped Actn: 4 |          | Obj Strk: 17 |   |   |           |   |   |      |    |          |    |
| 4      | 105374668 | 02/06/2018<br>11:30 | ANGLE                  | \$ 8500                | 0        | 0            | 0 | 0 | 1         | 1 | 1 | 2    | 0  | 0        |    |
| Unit   | 1 : 4     | Alchl/Drgs: 0       | Speed: 5 MPH Dir: S    | Veh Mnvr / Ped Actn: 8 |          | Obj Strk:    |   |   |           |   |   |      |    |          |    |
| Unit   | 2 : 4     | Alchl/Drgs: 0       | Speed: 30 MPH Dir: S   | Veh Mnvr / Ped Actn: 4 |          | Obj Strk:    |   |   |           |   |   |      |    |          |    |
| Unit   | 3 : 11    | Alchl/Drgs: 7       | Speed: 0 MPH Dir: S    | Veh Mnvr / Ped Actn: 2 |          | Obj Strk:    |   |   |           |   |   |      |    |          |    |
| 5      | 105513879 | 06/18/2018<br>09:15 | ANGLE                  | \$ 14000               | 0        | 0            | 1 | 1 | 1         | 1 | 1 | 2    | 0  | 3        | 1  |
| Unit   | 1 : 1     | Alchl/Drgs: 0       | Speed: 35 MPH Dir: E   | Veh Mnvr / Ped Actn: 4 |          | Obj Strk:    |   |   |           |   |   |      |    |          |    |
| Unit   | 2 : 2     | Alchl/Drgs: 0       | Speed: 40 MPH Dir: N   | Veh Mnvr / Ped Actn: 4 |          | Obj Strk:    |   |   |           |   |   |      |    |          |    |
| 6      | 105615241 | 09/25/2018<br>16:29 | ANGLE                  | \$ 12000               | 0        | 0            | 1 | 1 | 1         | 1 | 1 | 1    | 0  | 3        | 1  |
| Unit   | 1 : 3     | Alchl/Drgs: 0       | Speed: 35 MPH Dir: N   | Veh Mnvr / Ped Actn: 4 |          | Obj Strk:    |   |   |           |   |   |      |    |          |    |
| Unit   | 2 : 1     | Alchl/Drgs: 0       | Speed: 5 MPH Dir: E    | Veh Mnvr / Ped Actn: 4 |          | Obj Strk:    |   |   |           |   |   |      |    |          |    |
| Unit   | 3 : 3     | Alchl/Drgs: 0       | Speed: 0 MPH Dir: SW   | Veh Mnvr / Ped Actn: 8 |          | Obj Strk:    |   |   |           |   |   |      |    |          |    |
| 7      | 105815572 | 03/26/2019<br>08:05 | REAR END, SLOW OR STOP | \$ 4100                | 0        | 0            | 0 | 0 | 1         | 1 | 2 | 2    | 0  | 0        |    |
| Unit   | 1 : 1     | Alchl/Drgs: 0       | Speed: 30 MPH Dir: N   | Veh Mnvr / Ped Actn: 4 |          | Obj Strk:    |   |   |           |   |   |      |    |          |    |
| Unit   | 2 : 4     | Alchl/Drgs: 0       | Speed: 20 MPH Dir: N   | Veh Mnvr / Ped Actn: 4 |          | Obj Strk:    |   |   |           |   |   |      |    |          |    |

**North Carolina Department of Transportation  
Traffic Engineering Accident Analysis System  
Intersection Analysis Report**

| Acc No | Crash ID  | Date                | Accident Type          | Total Damage           | Injuries |   |   |           | Condition |   |   | Road |    | Trfc Ctl |    |
|--------|-----------|---------------------|------------------------|------------------------|----------|---|---|-----------|-----------|---|---|------|----|----------|----|
|        |           |                     |                        |                        | F        | A | B | C         | R         | L | W | Ch   | Ci | Dv       | Op |
| 8      | 105865468 | 05/07/2019<br>08:20 | REAR END, SLOW OR STOP | \$ 2000                | 0        | 0 | 0 | 0         | 1         | 1 | 2 | 2    | 0  | 13       | 1  |
| Unit   | 1 : 4     | Alchl/Drgs: 0       | Speed: 35 MPH Dir: N   | Veh Mnvr / Ped Actn: 4 |          |   |   | Obj Strk: |           |   |   |      |    |          |    |
| Unit   | 2 : 2     | Alchl/Drgs: 0       | Speed: 20 MPH Dir: N   | Veh Mnvr / Ped Actn: 4 |          |   |   | Obj Strk: |           |   |   |      |    |          |    |

**Legend for Report Details:**

- Acc No - Accident Number
- Injuries: F - Fatal, A - Class A, B - Class B, C - Class C
- Condition: R - Road Surface, L - Ambient Light, W - Weather
- Rd Ch - Road Character
- Rd Ci - Roadway Contributing Circumstances
- Trfc Ctl - Traffic Control: Dv - Device, Op - Operating
- Alchl/Drgs - Alcohol Drugs Suspected
- Veh Mnvr/Ped Actn - Vehicle Maneuver/Pedestrian Action
- Obj Strk - Object Struck

North Carolina Department of Transportation  
Traffic Engineering Accident Analysis System  
Intersection Analysis Report

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**Summary Statistics**

**High Level Crash Summary**

| <b>Crash Type</b>                 | <b>Number of Crashes</b> | <b>Percent of Total</b> |
|-----------------------------------|--------------------------|-------------------------|
| Total Crashes                     | 8                        | 100.00                  |
| Fatal Crashes                     | 0                        | 0.00                    |
| Non-Fatal Injury Crashes          | 3                        | 37.50                   |
| Total Injury Crashes              | 3                        | 37.50                   |
| Property Damage Only Crashes      | 5                        | 62.50                   |
| Night Crashes                     | 1                        | 12.50                   |
| Wet Crashes                       | 0                        | 0.00                    |
| Alcohol/Drugs Involvement Crashes | 0                        | 0.00                    |

**Crash Severity Summary**

| <b>Crash Type</b>            | <b>Number of Crashes</b> | <b>Percent of Total</b> |
|------------------------------|--------------------------|-------------------------|
| Total Crashes                | 8                        | 100.00                  |
| Fatal Crashes                | 0                        | 0.00                    |
| Class A Crashes              | 0                        | 0.00                    |
| Class B Crashes              | 2                        | 25.00                   |
| Class C Crashes              | 1                        | 12.50                   |
| Property Damage Only Crashes | 5                        | 62.50                   |

**Vehicle Exposure Statistics**

Annual ADT = 17500

Total Vehicle Exposure = 19.18 (MEV)

| <b>Crash Rate</b>    | <b>Crashes Per 100 Million Vehicles Entered</b> |
|----------------------|-------------------------------------------------|
| Total Crash Rate     | 41.71                                           |
| Fatal Crash Rate     | 0.00                                            |
| Non Fatal Crash Rate | 15.64                                           |
| Night Crash Rate     | 5.21                                            |
| Wet Crash Rate       | 0.00                                            |
| EPDO Rate            | 157.46                                          |

**North Carolina Department of Transportation  
Traffic Engineering Accident Analysis System  
Intersection Analysis Report**

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**Miscellaneous Statistics**

|                                      |          |
|--------------------------------------|----------|
| Severity Index =                     | 3.77     |
| EPDO Crash Index =                   | 30.20    |
| Estimated Property Damage Total = \$ | 51800.00 |

**Accident Type Summary**

| <b>Accident Type</b>   | <b>Number of<br/>Crashes</b> | <b>Percent<br/>of Total</b> |
|------------------------|------------------------------|-----------------------------|
| ANGLE                  | 3                            | 37.50                       |
| ANIMAL                 | 1                            | 12.50                       |
| REAR END, SLOW OR STOP | 4                            | 50.00                       |

**Injury Summary**

| <b>Injury Type</b>       | <b>Number of<br/>Injuries</b> | <b>Percent<br/>of Total</b> |
|--------------------------|-------------------------------|-----------------------------|
| Fatal Injuries           | 0                             | 0.00                        |
| Class A Injuries         | 0                             | 0.00                        |
| Class B Injuries         | 2                             | 40.00                       |
| Class C Injuries         | 3                             | 60.00                       |
| Total Non-Fatal Injuries | 5                             | 100.00                      |
| Total Injuries           | 5                             | 100.00                      |

**North Carolina Department of Transportation  
Traffic Engineering Accident Analysis System  
Intersection Analysis Report**

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**Monthly Summary**

| <b>Month</b> | <b>Number of<br/>Crashes</b> | <b>Percent<br/>of Total</b> |
|--------------|------------------------------|-----------------------------|
| Jan          | 0                            | 0.00                        |
| Feb          | 1                            | 12.50                       |
| Mar          | 1                            | 12.50                       |
| Apr          | 0                            | 0.00                        |
| May          | 1                            | 12.50                       |
| Jun          | 1                            | 12.50                       |
| Jul          | 1                            | 12.50                       |
| Aug          | 0                            | 0.00                        |
| Sep          | 1                            | 12.50                       |
| Oct          | 1                            | 12.50                       |
| Nov          | 1                            | 12.50                       |
| Dec          | 0                            | 0.00                        |

**Daily Summary**

| <b>Day</b> | <b>Number of<br/>Crashes</b> | <b>Percent<br/>of Total</b> |
|------------|------------------------------|-----------------------------|
| Mon        | 1                            | 12.50                       |
| Tue        | 6                            | 75.00                       |
| Wed        | 0                            | 0.00                        |
| Thu        | 0                            | 0.00                        |
| Fri        | 1                            | 12.50                       |
| Sat        | 0                            | 0.00                        |
| Sun        | 0                            | 0.00                        |

**North Carolina Department of Transportation  
Traffic Engineering Accident Analysis System  
Intersection Analysis Report**

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**Hourly Summary**

| <b>Hour</b> | <b>Number of<br/>Crashes</b> | <b>Percent<br/>of Total</b> |
|-------------|------------------------------|-----------------------------|
| 0000-0059   | 0                            | 0.00                        |
| 0100-0159   | 0                            | 0.00                        |
| 0200-0259   | 0                            | 0.00                        |
| 0300-0359   | 0                            | 0.00                        |
| 0400-0459   | 0                            | 0.00                        |
| 0500-0559   | 0                            | 0.00                        |
| 0600-0659   | 1                            | 12.50                       |
| 0700-0759   | 0                            | 0.00                        |
| 0800-0859   | 2                            | 25.00                       |
| 0900-0959   | 1                            | 12.50                       |
| 1000-1059   | 0                            | 0.00                        |
| 1100-1159   | 1                            | 12.50                       |
| 1200-1259   | 1                            | 12.50                       |
| 1300-1359   | 0                            | 0.00                        |
| 1400-1459   | 0                            | 0.00                        |
| 1500-1559   | 0                            | 0.00                        |
| 1600-1659   | 2                            | 25.00                       |
| 1700-1759   | 0                            | 0.00                        |
| 1800-1859   | 0                            | 0.00                        |
| 1900-1959   | 0                            | 0.00                        |
| 2000-2059   | 0                            | 0.00                        |
| 2100-2159   | 0                            | 0.00                        |
| 2200-2259   | 0                            | 0.00                        |
| 2300-2359   | 0                            | 0.00                        |

**North Carolina Department of Transportation  
Traffic Engineering Accident Analysis System  
Intersection Analysis Report**

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**Light and Road Conditions Summary**

| Condition | Dry | Wet | Other | Total |
|-----------|-----|-----|-------|-------|
| Day       | 7   | 0   | 0     | 7     |
| Dark      | 1   | 0   | 0     | 1     |
| Other     | 0   | 0   | 0     | 0     |
| Total     | 8   | 0   | 0     | 8     |

**Object Struck Summary**

| Object Type | Times Struck | Percent of Total |
|-------------|--------------|------------------|
| ANIMAL      | 1            | 100.00           |

**Vehicle Type Summary**

| Vehicle Type                        | Number Involved | Percent of Total |
|-------------------------------------|-----------------|------------------|
| LIGHT TRUCK (MINI-VAN, PANEL)       | 2               | 11.76            |
| PASSENGER CAR                       | 3               | 17.65            |
| PICKUP                              | 4               | 23.53            |
| SINGLE UNIT TRUCK (3 OR MORE AXLES) | 1               | 5.88             |
| SPORT UTILITY                       | 7               | 41.18            |

North Carolina Department of Transportation  
Traffic Engineering Accident Analysis System  
Intersection Analysis Report

**Yearly Totals Summary**

**Accident Totals**

| Year  | Total<br>Accidents | Fatal<br>Accidents | Injury<br>Accidents | Property Damage<br>Only Accidents |
|-------|--------------------|--------------------|---------------------|-----------------------------------|
| 2017  | 3                  | 0                  | 1                   | 2                                 |
| 2018  | 3                  | 0                  | 2                   | 1                                 |
| 2019  | 2                  | 0                  | 0                   | 2                                 |
| 2020  | 0                  | 0                  | 0                   | 0                                 |
| Total | 8                  | 0                  | 3                   | 5                                 |

**Injury Totals**

| Year  | Fatal Injuries | Class A, B,<br>or C Injuries |
|-------|----------------|------------------------------|
| 2017  | 0              | 1                            |
| 2018  | 0              | 4                            |
| 2019  | 0              | 0                            |
| 2020  | 0              | 0                            |
| Total | 0              | 5                            |

**Miscellaneous Totals**

| Year  | Property Damage | EPDO Index |
|-------|-----------------|------------|
| 2017  | \$ 11200        | 10.40      |
| 2018  | \$ 34500        | 17.80      |
| 2019  | \$ 6100         | 2.00       |
| 2020  | \$ 0            | 0.00       |
| Total | \$ 51800        | 30.20      |

**Type of Accident Totals**

| Year  | Left Turn | Right Turn | Rear End | Run Off Road &<br>Fixed Object | Angle | Side Swipe | Other |
|-------|-----------|------------|----------|--------------------------------|-------|------------|-------|
| 2017  | 0         | 0          | 2        | 0                              | 0     | 0          | 1     |
| 2018  | 0         | 0          | 0        | 0                              | 3     | 0          | 0     |
| 2019  | 0         | 0          | 2        | 0                              | 0     | 0          | 0     |
| 2020  | 0         | 0          | 0        | 0                              | 0     | 0          | 0     |
| Total | 0         | 0          | 4        | 0                              | 3     | 0          | 1     |



**North Carolina Department of Transportation  
Traffic Engineering Accident Analysis System  
Intersection Analysis Report**

**Study Criteria Summary**

**County:** UNION **City:** All and Rural  
**Date:** 11/1/2018 to 6/30/2020 **Study:** 41000061608  
**Location:** SR 1365 (Stallings Rd) at Stallings Commerce Dr/US 74 (Independence Blvd)/Monroe Expressway WB Ramp

**Report Details**

| Acc No | Crash ID  | Date                | Accident Type          | Total Damage            | Injuries |           |   |   | Condition |   |   | Road |    | Trfc Ctl |    |
|--------|-----------|---------------------|------------------------|-------------------------|----------|-----------|---|---|-----------|---|---|------|----|----------|----|
|        |           |                     |                        |                         | F        | A         | B | C | R         | L | W | Ch   | Ci | Dv       | Op |
| 1      | 105912080 | 06/29/2019<br>16:15 | REAR END, SLOW OR STOP | \$ 2200                 | 0        | 0         | 0 | 0 | 1         | 1 | 1 | 1    | 0  | 3        | 1  |
| Unit   | 1 : 4     | Alchl/Drugs: 0      | Speed: 5 MPH Dir: S    | Veh Mnvr / Ped Actn: 11 |          | Obj Strk: |   |   |           |   |   |      |    |          |    |
| Unit   | 2 : 1     | Alchl/Drugs: 0      | Speed: 0 MPH Dir: S    | Veh Mnvr / Ped Actn: 1  |          | Obj Strk: |   |   |           |   |   |      |    |          |    |
| 2      | 106083564 | 12/03/2019<br>19:48 | ANGLE                  | \$ 6000                 | 0        | 0         | 0 | 0 | 1         | 4 | 1 | 1    | 0  | 3        | 1  |
| Unit   | 1 : 1     | Alchl/Drugs: 0      | Speed: 25 MPH Dir: S   | Veh Mnvr / Ped Actn: 4  |          | Obj Strk: |   |   |           |   |   |      |    |          |    |
| Unit   | 2 : 1     | Alchl/Drugs: 0      | Speed: 20 MPH Dir: W   | Veh Mnvr / Ped Actn: 4  |          | Obj Strk: |   |   |           |   |   |      |    |          |    |

**Legend for  
Report Details:**

Acc No - Accident Number  
 Injuries: F - Fatal, A - Class A, B - Class B, C - Class C  
 Condition: R - Road Surface, L - Ambient Light, W - Weather  
 Rd Ch - Road Character  
 Rd Ci - Roadway Contributing Circumstances  
 Trfc Ctl - Traffic Control: Dv - Device, Op - Operating  
 Alchl/Drugs - Alcohol Drugs Suspected  
 Veh Mnvr/Ped Actn - Vehicle Maneuver/Pedestrian Action  
 Obj Strk - Object Struck

**North Carolina Department of Transportation  
Traffic Engineering Accident Analysis System  
Intersection Analysis Report**

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**Summary Statistics**

**High Level Crash Summary**

| <b>Crash Type</b>                 | <b>Number of<br/>Crashes</b> | <b>Percent<br/>of Total</b> |
|-----------------------------------|------------------------------|-----------------------------|
| Total Crashes                     | 2                            | 100.00                      |
| Fatal Crashes                     | 0                            | 0.00                        |
| Non-Fatal Injury Crashes          | 0                            | 0.00                        |
| Total Injury Crashes              | 0                            | 0.00                        |
| Property Damage Only Crashes      | 2                            | 100.00                      |
| Night Crashes                     | 1                            | 50.00                       |
| Wet Crashes                       | 0                            | 0.00                        |
| Alcohol/Drugs Involvement Crashes | 0                            | 0.00                        |

**Crash Severity Summary**

| <b>Crash Type</b>            | <b>Number of<br/>Crashes</b> | <b>Percent<br/>of Total</b> |
|------------------------------|------------------------------|-----------------------------|
| Total Crashes                | 2                            | 100.00                      |
| Fatal Crashes                | 0                            | 0.00                        |
| Class A Crashes              | 0                            | 0.00                        |
| Class B Crashes              | 0                            | 0.00                        |
| Class C Crashes              | 0                            | 0.00                        |
| Property Damage Only Crashes | 2                            | 100.00                      |

**Vehicle Exposure Statistics**

**Annual ADT = 11000**

**Total Vehicle Exposure = 6.69 (MEV)**

| <b>Crash Rate</b>    | <b>Crashes Per 100 Million<br/>Vehicles Entered</b> |
|----------------------|-----------------------------------------------------|
| Total Crash Rate     | 29.90                                               |
| Fatal Crash Rate     | 0.00                                                |
| Non Fatal Crash Rate | 0.00                                                |
| Night Crash Rate     | 14.95                                               |
| Wet Crash Rate       | 0.00                                                |
| EPDO Rate            | 29.90                                               |

**North Carolina Department of Transportation  
Traffic Engineering Accident Analysis System  
Intersection Analysis Report**

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**Miscellaneous Statistics**

|                                      |         |
|--------------------------------------|---------|
| Severity Index =                     | 1.00    |
| EPDO Crash Index =                   | 2.00    |
| Estimated Property Damage Total = \$ | 8200.00 |

**Accident Type Summary**

| <b>Accident Type</b>   | <b>Number of<br/>Crashes</b> | <b>Percent<br/>of Total</b> |
|------------------------|------------------------------|-----------------------------|
| ANGLE                  | 1                            | 50.00                       |
| REAR END, SLOW OR STOP | 1                            | 50.00                       |

**Injury Summary**

| <b>Injury Type</b>       | <b>Number of<br/>Injuries</b> | <b>Percent<br/>of Total</b> |
|--------------------------|-------------------------------|-----------------------------|
| Fatal Injuries           | 0                             | 0.00                        |
| Class A Injuries         | 0                             | 0.00                        |
| Class B Injuries         | 0                             | 0.00                        |
| Class C Injuries         | 0                             | 0.00                        |
| Total Non-Fatal Injuries | 0                             | 0.00                        |
| Total Injuries           | 0                             | 0.00                        |

**North Carolina Department of Transportation  
Traffic Engineering Accident Analysis System  
Intersection Analysis Report**

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**Monthly Summary**

| <b>Month</b> | <b>Number of<br/>Crashes</b> | <b>Percent<br/>of Total</b> |
|--------------|------------------------------|-----------------------------|
| Jan          | 0                            | 0.00                        |
| Feb          | 0                            | 0.00                        |
| Mar          | 0                            | 0.00                        |
| Apr          | 0                            | 0.00                        |
| May          | 0                            | 0.00                        |
| Jun          | 1                            | 50.00                       |
| Jul          | 0                            | 0.00                        |
| Aug          | 0                            | 0.00                        |
| Sep          | 0                            | 0.00                        |
| Oct          | 0                            | 0.00                        |
| Nov          | 0                            | 0.00                        |
| Dec          | 1                            | 50.00                       |

**Daily Summary**

| <b>Day</b> | <b>Number of<br/>Crashes</b> | <b>Percent<br/>of Total</b> |
|------------|------------------------------|-----------------------------|
| Mon        | 0                            | 0.00                        |
| Tue        | 1                            | 50.00                       |
| Wed        | 0                            | 0.00                        |
| Thu        | 0                            | 0.00                        |
| Fri        | 0                            | 0.00                        |
| Sat        | 1                            | 50.00                       |
| Sun        | 0                            | 0.00                        |

**North Carolina Department of Transportation  
Traffic Engineering Accident Analysis System  
Intersection Analysis Report**

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**Hourly Summary**

| <b>Hour</b> | <b>Number of<br/>Crashes</b> | <b>Percent<br/>of Total</b> |
|-------------|------------------------------|-----------------------------|
| 0000-0059   | 0                            | 0.00                        |
| 0100-0159   | 0                            | 0.00                        |
| 0200-0259   | 0                            | 0.00                        |
| 0300-0359   | 0                            | 0.00                        |
| 0400-0459   | 0                            | 0.00                        |
| 0500-0559   | 0                            | 0.00                        |
| 0600-0659   | 0                            | 0.00                        |
| 0700-0759   | 0                            | 0.00                        |
| 0800-0859   | 0                            | 0.00                        |
| 0900-0959   | 0                            | 0.00                        |
| 1000-1059   | 0                            | 0.00                        |
| 1100-1159   | 0                            | 0.00                        |
| 1200-1259   | 0                            | 0.00                        |
| 1300-1359   | 0                            | 0.00                        |
| 1400-1459   | 0                            | 0.00                        |
| 1500-1559   | 0                            | 0.00                        |
| 1600-1659   | 1                            | 50.00                       |
| 1700-1759   | 0                            | 0.00                        |
| 1800-1859   | 0                            | 0.00                        |
| 1900-1959   | 1                            | 50.00                       |
| 2000-2059   | 0                            | 0.00                        |
| 2100-2159   | 0                            | 0.00                        |
| 2200-2259   | 0                            | 0.00                        |
| 2300-2359   | 0                            | 0.00                        |

**North Carolina Department of Transportation  
Traffic Engineering Accident Analysis System  
Intersection Analysis Report**

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**Light and Road Conditions Summary**

| <b>Condition</b> | <b>Dry</b> | <b>Wet</b> | <b>Other</b> | <b>Total</b> |
|------------------|------------|------------|--------------|--------------|
| Day              | 1          | 0          | 0            | 1            |
| Dark             | 1          | 0          | 0            | 1            |
| Other            | 0          | 0          | 0            | 0            |
| Total            | 2          | 0          | 0            | 2            |

**Vehicle Type Summary**

| <b>Vehicle Type</b> | <b>Number<br/>Involved</b> | <b>Percent<br/>of Total</b> |
|---------------------|----------------------------|-----------------------------|
| PASSENGER CAR       | 3                          | 75.00                       |
| SPORT UTILITY       | 1                          | 25.00                       |

North Carolina Department of Transportation  
Traffic Engineering Accident Analysis System  
Intersection Analysis Report

**Yearly Totals Summary**

**Accident Totals**

| Year  | Total<br>Accidents | Fatal<br>Accidents | Injury<br>Accidents | Property Damage<br>Only Accidents |
|-------|--------------------|--------------------|---------------------|-----------------------------------|
| 2018  | 0                  | 0                  | 0                   | 0                                 |
| 2019  | 2                  | 0                  | 0                   | 2                                 |
| 2020  | 0                  | 0                  | 0                   | 0                                 |
| Total | 2                  | 0                  | 0                   | 2                                 |

**Injury Totals**

| Year  | Fatal Injuries | Class A, B,<br>or C Injuries |
|-------|----------------|------------------------------|
| 2018  | 0              | 0                            |
| 2019  | 0              | 0                            |
| 2020  | 0              | 0                            |
| Total | 0              | 0                            |

**Miscellaneous Totals**

| Year  | Property Damage | EPDO Index |
|-------|-----------------|------------|
| 2018  | \$ 0            | 0.00       |
| 2019  | \$ 8200         | 2.00       |
| 2020  | \$ 0            | 0.00       |
| Total | \$ 8200         | 2.00       |

**Type of Accident Totals**

| Year  | Left Turn | Right Turn | Rear End | Run Off Road &<br>Fixed Object | Angle | Side Swipe | Other |
|-------|-----------|------------|----------|--------------------------------|-------|------------|-------|
| 2018  | 0         | 0          | 0        | 0                              | 0     | 0          | 0     |
| 2019  | 0         | 0          | 1        | 0                              | 1     | 0          | 0     |
| 2020  | 0         | 0          | 0        | 0                              | 0     | 0          | 0     |
| Total | 0         | 0          | 1        | 0                              | 1     | 0          | 0     |

**North Carolina Department of Transportation  
Traffic Engineering Accident Analysis System  
Intersection Analysis Report**

**Study Criteria Summary**

**County:** UNION **City:** All and Rural  
**Date:** 11/01/2018 to 06/30/2020 **Study:** 41000061609  
**Location:** SR 1365 (Stallings Rd) at Guion Ln/US 74 (Independence Blvd)/Monroe Expressway EB Ramp

**Report Details**

| Acc No | Crash ID  | Date                | Accident Type             | Total Damage           | Injuries |           |   |   | Condition |   |   | Road |    | Trfc Ctl |    |
|--------|-----------|---------------------|---------------------------|------------------------|----------|-----------|---|---|-----------|---|---|------|----|----------|----|
|        |           |                     |                           |                        | F        | A         | B | C | R         | L | W | Ch   | Ci | Dv       | Op |
| 1      | 105687417 | 11/21/2018<br>17:49 | SIDESWIPE, SAME DIRECTION | \$ 2500                | 0        | 0         | 0 | 0 | 1         | 5 | 1 | 1    | 0  | 3        | 1  |
| Unit   | 1 : 32    | Alchl/Drgs: 7       | Speed: 20 MPH Dir: S      | Veh Mnvr / Ped Actn: 5 |          | Obj Strk: |   |   |           |   |   |      |    |          |    |
| Unit   | 2 : 1     | Alchl/Drgs: 0       | Speed: 15 MPH Dir: S      | Veh Mnvr / Ped Actn: 4 |          | Obj Strk: |   |   |           |   |   |      |    |          |    |
| 2      | 105767622 | 02/09/2019<br>10:31 | SIDESWIPE, SAME DIRECTION | \$ 2200                | 0        | 0         | 0 | 0 | 1         | 1 | 1 | 1    | 4  | 3        | 1  |
| Unit   | 1 : 1     | Alchl/Drgs: 0       | Speed: 15 MPH Dir: N      | Veh Mnvr / Ped Actn: 5 |          | Obj Strk: |   |   |           |   |   |      |    |          |    |
| Unit   | 2 : 5     | Alchl/Drgs: 0       | Speed: 15 MPH Dir: N      | Veh Mnvr / Ped Actn: 4 |          | Obj Strk: |   |   |           |   |   |      |    |          |    |
| 3      | 105782379 | 02/21/2019<br>20:24 | REAR END, SLOW OR STOP    | \$ 3500                | 0        | 0         | 0 | 0 | 1         | 4 | 2 | 3    | 0  | 3        | 1  |
| Unit   | 1 : 1     | Alchl/Drgs: 0       | Speed: 10 MPH Dir: N      | Veh Mnvr / Ped Actn: 4 |          | Obj Strk: |   |   |           |   |   |      |    |          |    |
| Unit   | 2 : 2     | Alchl/Drgs: 0       | Speed: 5 MPH Dir: N       | Veh Mnvr / Ped Actn: 4 |          | Obj Strk: |   |   |           |   |   |      |    |          |    |
| 4      | 105785337 | 02/26/2019<br>19:26 | ANGLE                     | \$ 3500                | 0        | 0         | 0 | 0 | 1         | 5 | 1 | 1    | 0  | 3        | 1  |
| Unit   | 1 : 4     | Alchl/Drgs: 0       | Speed: 25 MPH Dir: N      | Veh Mnvr / Ped Actn: 4 |          | Obj Strk: |   |   |           |   |   |      |    |          |    |
| Unit   | 2 : 1     | Alchl/Drgs: 0       | Speed: 15 MPH Dir: N      | Veh Mnvr / Ped Actn: 8 |          | Obj Strk: |   |   |           |   |   |      |    |          |    |
| 5      | 105857544 | 05/08/2019<br>07:28 | REAR END, SLOW OR STOP    | \$ 1050                | 0        | 0         | 0 | 0 | 1         | 1 | 2 | 1    | 0  | 3        | 1  |
| Unit   | 1 : 1     | Alchl/Drgs: 0       | Speed: 5 MPH Dir: E       | Veh Mnvr / Ped Actn: 7 |          | Obj Strk: |   |   |           |   |   |      |    |          |    |
| Unit   | 2 : 4     | Alchl/Drgs: 0       | Speed: 10 MPH Dir: E      | Veh Mnvr / Ped Actn: 1 |          | Obj Strk: |   |   |           |   |   |      |    |          |    |
| 6      | 105878453 | 05/30/2019<br>12:40 | REAR END, SLOW OR STOP    | \$ 4000                | 0        | 0         | 0 | 0 | 1         | 1 | 1 | 1    | 0  | 3        | 1  |
| Unit   | 1 : 4     | Alchl/Drgs: 0       | Speed: 15 MPH Dir: E      | Veh Mnvr / Ped Actn: 4 |          | Obj Strk: |   |   |           |   |   |      |    |          |    |
| Unit   | 2 : 4     | Alchl/Drgs: 0       | Speed: 0 MPH Dir: E       | Veh Mnvr / Ped Actn: 1 |          | Obj Strk: |   |   |           |   |   |      |    |          |    |
| 7      | 105931919 | 07/21/2019<br>15:24 | REAR END, SLOW OR STOP    | \$ 12000               | 0        | 0         | 0 | 0 | 1         | 1 | 1 | 1    | 0  | 3        | 1  |
| Unit   | 1 : 1     | Alchl/Drgs: 0       | Speed: 20 MPH Dir: E      | Veh Mnvr / Ped Actn: 4 |          | Obj Strk: |   |   |           |   |   |      |    |          |    |
| Unit   | 2 : 1     | Alchl/Drgs: 0       | Speed: 0 MPH Dir: E       | Veh Mnvr / Ped Actn: 1 |          | Obj Strk: |   |   |           |   |   |      |    |          |    |
| 8      | 105944953 | 07/31/2019<br>18:34 | ANGLE                     | \$ 2000                | 0        | 0         | 0 | 0 | 2         | 1 | 2 | 1    | 0  | 3        | 1  |
| Unit   | 1 : 1     | Alchl/Drgs: 0       | Speed: 5 MPH Dir: N       | Veh Mnvr / Ped Actn: 4 |          | Obj Strk: |   |   |           |   |   |      |    |          |    |

08/20/2020

All data presented in this report comes explicitly from the Traffic Engineering Accident Analysis System based upon various input criteria provided by the report's creator. The onus is strictly upon the user of this report to exercise due diligence in interpreting and further representing this data.

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**North Carolina Department of Transportation  
Traffic Engineering Accident Analysis System  
Intersection Analysis Report**

| Acc No | Crash ID  | Date                | Accident Type             | Total Damage         | Injuries |   |   |   | Condition |              |   | Road |    | Trfc Ctl |    |
|--------|-----------|---------------------|---------------------------|----------------------|----------|---|---|---|-----------|--------------|---|------|----|----------|----|
|        |           |                     |                           |                      | F        | A | B | C | R         | L            | W | Ch   | Ci | Dv       | Op |
| Unit   | 2 : 1     | Alchl/Drgs: 0       | Speed: 35 MPH Dir: E      | Veh Mnvr / Ped Actn: |          |   |   |   | 4         | Obj Strk:    |   |      |    |          |    |
| 9      | 105971776 | 08/25/2019<br>23:45 | ANGLE                     | \$ 1000              | 0        | 0 | 0 | 0 | 1         | 4            | 1 | 3    | 0  | 3        | 1  |
| Unit   | 1 : 26    | Alchl/Drgs: 0       | Speed: 0 MPH Dir:         | Veh Mnvr / Ped Actn: |          |   |   |   | 4         | Obj Strk:    |   |      |    |          |    |
| Unit   | 2 : 1     | Alchl/Drgs: 0       | Speed: 5 MPH Dir: E       | Veh Mnvr / Ped Actn: |          |   |   |   | 4         | Obj Strk:    |   |      |    |          |    |
| 10     | 105973197 | 08/29/2019<br>07:41 | ANGLE                     | \$ 10000             | 0        | 0 | 0 | 0 | 1         | 1            | 1 | 1    | 12 | 3        | 1  |
| Unit   | 1 : 1     | Alchl/Drgs: 0       | Speed: 25 MPH Dir: E      | Veh Mnvr / Ped Actn: |          |   |   |   | 4         | Obj Strk:    |   |      |    |          |    |
| Unit   | 2 : 3     | Alchl/Drgs: 0       | Speed: 30 MPH Dir: N      | Veh Mnvr / Ped Actn: |          |   |   |   | 4         | Obj Strk:    |   |      |    |          |    |
| Unit   | 3 : 1     | Alchl/Drgs: 0       | Speed: 0 MPH Dir: N       | Veh Mnvr / Ped Actn: |          |   |   |   | 1         | Obj Strk:    |   |      |    |          |    |
| 11     | 105990997 | 09/12/2019<br>13:13 | ANGLE                     | \$ 10000             | 0        | 0 | 0 | 0 | 1         | 1            | 1 | 1    | 0  | 3        | 1  |
| Unit   | 1 : 1     | Alchl/Drgs: 0       | Speed: 20 MPH Dir: S      | Veh Mnvr / Ped Actn: |          |   |   |   | 4         | Obj Strk:    |   |      |    |          |    |
| Unit   | 2 : 1     | Alchl/Drgs: 0       | Speed: 10 MPH Dir: E      | Veh Mnvr / Ped Actn: |          |   |   |   | 4         | Obj Strk:    |   |      |    |          |    |
| 12     | 106008448 | 09/30/2019<br>15:37 | REAR END, SLOW OR STOP    | \$ 4500              | 0        | 0 | 0 | 0 | 1         | 1            | 1 | 1    | 0  | 3        | 1  |
| Unit   | 1 : 4     | Alchl/Drgs: 0       | Speed: 15 MPH Dir: E      | Veh Mnvr / Ped Actn: |          |   |   |   | 11        | Obj Strk:    |   |      |    |          |    |
| Unit   | 2 : 4     | Alchl/Drgs: 0       | Speed: 5 MPH Dir: E       | Veh Mnvr / Ped Actn: |          |   |   |   | 11        | Obj Strk:    |   |      |    |          |    |
| 13     | 106011049 | 10/02/2019<br>23:02 | SIDESWIPE, SAME DIRECTION | \$ 3000              | 0        | 0 | 0 | 0 | 1         | 4            | 1 | 1    | 0  | 3        | 1  |
| Unit   | 1 : 32    | Alchl/Drgs: 7       | Speed: 35 MPH Dir: E      | Veh Mnvr / Ped Actn: |          |   |   |   | 5         | Obj Strk:    |   |      |    |          |    |
| Unit   | 2 : 1     | Alchl/Drgs: 0       | Speed: 35 MPH Dir: E      | Veh Mnvr / Ped Actn: |          |   |   |   | 4         | Obj Strk:    |   |      |    |          |    |
| 14     | 106015118 | 10/05/2019<br>17:07 | FIXED OBJECT              | \$ 10000             | 0        | 0 | 1 | 0 | 1         | 1            | 2 | 5    | 0  | 0        |    |
| Unit   | 1 : 1     | Alchl/Drgs: 1       | Speed: 50 MPH Dir: E      | Veh Mnvr / Ped Actn: |          |   |   |   | 8         | Obj Strk: 48 |   |      |    |          |    |
| 15     | 106095086 | 12/12/2019<br>12:45 | SIDESWIPE, SAME DIRECTION | \$ 5000              | 0        | 0 | 0 | 0 | 1         | 1            | 1 | 3    | 0  | 2        | 1  |
| Unit   | 1 : 1     | Alchl/Drgs: 0       | Speed: 35 MPH Dir: S      | Veh Mnvr / Ped Actn: |          |   |   |   | 5         | Obj Strk:    |   |      |    |          |    |
| Unit   | 2 : 1     | Alchl/Drgs: 0       | Speed: 35 MPH Dir: S      | Veh Mnvr / Ped Actn: |          |   |   |   | 4         | Obj Strk:    |   |      |    |          |    |
| 16     | 106127954 | 01/15/2020<br>08:22 | ANGLE                     | \$ 18000             | 0        | 0 | 0 | 1 | 2         | 1            | 2 | 1    | 0  | 3        | 1  |
| Unit   | 1 : 1     | Alchl/Drgs: 0       | Speed: 45 MPH Dir: N      | Veh Mnvr / Ped Actn: |          |   |   |   | 4         | Obj Strk:    |   |      |    |          |    |
| Unit   | 2 : 4     | Alchl/Drgs: 0       | Speed: 10 MPH Dir: E      | Veh Mnvr / Ped Actn: |          |   |   |   | 8         | Obj Strk:    |   |      |    |          |    |
| 17     | 106129648 | 01/17/2020<br>15:49 | ANGLE                     | \$ 23000             | 0        | 0 | 1 | 0 | 1         | 1            | 1 | 1    | 0  | 3        | 1  |
| Unit   | 1 : 2     | Alchl/Drgs: 0       | Speed: 50 MPH Dir: S      | Veh Mnvr / Ped Actn: |          |   |   |   | 4         | Obj Strk:    |   |      |    |          |    |
| Unit   | 2 : 1     | Alchl/Drgs: 0       | Speed: 20 MPH Dir: E      | Veh Mnvr / Ped Actn: |          |   |   |   | 4         | Obj Strk:    |   |      |    |          |    |

08/20/2020

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**North Carolina Department of Transportation**  
**Traffic Engineering Accident Analysis System**  
**Intersection Analysis Report**

| Acc No | Crash ID  | Date                | Accident Type                 | Total Damage         | Injuries |   |   |    | Condition |   |   | Road |    | Trfc Ctl |    |
|--------|-----------|---------------------|-------------------------------|----------------------|----------|---|---|----|-----------|---|---|------|----|----------|----|
|        |           |                     |                               |                      | F        | A | B | C  | R         | L | W | Ch   | Ci | Dv       | Op |
| 18     | 106152065 | 02/07/2020<br>16:59 | REAR END, SLOW OR STOP        | \$ 6000              | 0        | 0 | 0 | 2  | 1         | 1 | 1 | 5    | 0  | 2        | 1  |
| Unit   | 1 : 4     | Alchl/Drgs: 0       | Speed: 15 MPH Dir: E          | Veh Mnvr / Ped Actn: |          |   |   | 11 | Obj Strk: |   |   |      |    |          |    |
| Unit   | 2 : 4     | Alchl/Drgs: 0       | Speed: 5 MPH Dir: E           | Veh Mnvr / Ped Actn: |          |   |   | 11 | Obj Strk: |   |   |      |    |          |    |
| 19     | 106149881 | 02/09/2020<br>14:45 | REAR END, SLOW OR STOP        | \$ 1400              | 0        | 0 | 0 | 0  | 1         | 1 | 1 | 1    | 0  | 3        | 1  |
| Unit   | 1 : 4     | Alchl/Drgs: 0       | Speed: 5 MPH Dir: N           | Veh Mnvr / Ped Actn: |          |   |   | 4  | Obj Strk: |   |   |      |    |          |    |
| Unit   | 2 : 1     | Alchl/Drgs: 0       | Speed: 0 MPH Dir: N           | Veh Mnvr / Ped Actn: |          |   |   | 1  | Obj Strk: |   |   |      |    |          |    |
| 20     | 106169610 | 02/27/2020<br>08:30 | LEFT TURN, DIFFERENT ROADWAYS | \$ 10000             | 0        | 0 | 0 | 0  | 1         | 1 | 1 | 1    | 0  | 12       | 1  |
| Unit   | 1 : 4     | Alchl/Drgs: 0       | Speed: 10 MPH Dir: SE         | Veh Mnvr / Ped Actn: |          |   |   | 8  | Obj Strk: |   |   |      |    |          |    |
| Unit   | 2 : 2     | Alchl/Drgs: 0       | Speed: 45 MPH Dir: N          | Veh Mnvr / Ped Actn: |          |   |   | 4  | Obj Strk: |   |   |      |    |          |    |
| 21     | 106176874 | 03/06/2020<br>09:52 | REAR END, SLOW OR STOP        | \$ 1400              | 0        | 0 | 0 | 0  | 1         | 1 | 1 | 1    | 0  | 2        | 1  |
| Unit   | 1 : 4     | Alchl/Drgs: 0       | Speed: 10 MPH Dir: E          | Veh Mnvr / Ped Actn: |          |   |   | 7  | Obj Strk: |   |   |      |    |          |    |
| Unit   | 2 : 1     | Alchl/Drgs: 0       | Speed: 0 MPH Dir: E           | Veh Mnvr / Ped Actn: |          |   |   | 7  | Obj Strk: |   |   |      |    |          |    |
| 22     | 106186742 | 03/17/2020<br>12:52 | ANGLE                         | \$ 18000             | 0        | 0 | 0 | 0  | 1         | 1 | 2 | 1    | 0  | 3        | 1  |
| Unit   | 1 : 1     | Alchl/Drgs: 0       | Speed: 15 MPH Dir: S          | Veh Mnvr / Ped Actn: |          |   |   | 8  | Obj Strk: |   |   |      |    |          |    |
| Unit   | 2 : 2     | Alchl/Drgs: 0       | Speed: 30 MPH Dir: N          | Veh Mnvr / Ped Actn: |          |   |   | 4  | Obj Strk: |   |   |      |    |          |    |
| 23     | 106215170 | 05/02/2020<br>14:27 | REAR END, SLOW OR STOP        | \$ 2000              | 0        | 0 | 0 | 0  | 1         | 1 | 1 | 1    | 0  | 0        |    |
| Unit   | 1 : 1     | Alchl/Drgs: 0       | Speed: 10 MPH Dir: E          | Veh Mnvr / Ped Actn: |          |   |   | 12 | Obj Strk: |   |   |      |    |          |    |
| Unit   | 2 : 1     | Alchl/Drgs: 0       | Speed: 0 MPH Dir: E           | Veh Mnvr / Ped Actn: |          |   |   | 3  | Obj Strk: |   |   |      |    |          |    |
| 24     | 106216672 | 05/04/2020<br>09:53 | REAR END, SLOW OR STOP        | \$ 13000             | 0        | 0 | 0 | 0  | 1         | 1 | 1 | 1    | 0  | 2        | 1  |
| Unit   | 1 : 2     | Alchl/Drgs: 0       | Speed: 30 MPH Dir: SE         | Veh Mnvr / Ped Actn: |          |   |   | 5  | Obj Strk: |   |   |      |    |          |    |
| Unit   | 2 : 5     | Alchl/Drgs: 0       | Speed: 0 MPH Dir: SE          | Veh Mnvr / Ped Actn: |          |   |   | 5  | Obj Strk: |   |   |      |    |          |    |
| 25     | 106221985 | 05/10/2020<br>14:07 | ANGLE                         | \$ 8000              | 0        | 0 | 0 | 0  | 1         | 1 | 1 | 1    | 0  | 3        | 1  |
| Unit   | 1 : 1     | Alchl/Drgs: 0       | Speed: 30 MPH Dir: NE         | Veh Mnvr / Ped Actn: |          |   |   | 4  | Obj Strk: |   |   |      |    |          |    |
| Unit   | 2 : 1     | Alchl/Drgs: 0       | Speed: 25 MPH Dir: SE         | Veh Mnvr / Ped Actn: |          |   |   | 4  | Obj Strk: |   |   |      |    |          |    |
| 26     | 106238579 | 06/01/2020<br>15:03 | REAR END, SLOW OR STOP        | \$ 1400              | 0        | 0 | 0 | 0  | 1         | 1 | 1 | 3    | 0  | 3        | 1  |
| Unit   | 1 : 4     | Alchl/Drgs: 0       | Speed: 25 MPH Dir: N          | Veh Mnvr / Ped Actn: |          |   |   | 4  | Obj Strk: |   |   |      |    |          |    |
| Unit   | 2 : 1     | Alchl/Drgs: 0       | Speed: 10 MPH Dir: N          | Veh Mnvr / Ped Actn: |          |   |   | 1  | Obj Strk: |   |   |      |    |          |    |

08/20/2020

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**North Carolina Department of Transportation  
Traffic Engineering Accident Analysis System  
Intersection Analysis Report**

| Acc<br>No | Crash ID | Date | Accident Type | Total<br>Damage | Injuries |   |   |   | Condition |   |   | Road |    | Trfc Ctl |    |
|-----------|----------|------|---------------|-----------------|----------|---|---|---|-----------|---|---|------|----|----------|----|
|           |          |      |               |                 | F        | A | B | C | R         | L | W | Ch   | Ci | Dv       | Op |

**Legend for**  
**Report Details:**  
 Acc No - Accident Number  
 Injuries: F - Fatal, A - Class A, B - Class B, C - Class C  
 Condition: R - Road Surface, L - Ambient Light, W - Weather  
 Rd Ch - Road Character  
 Rd Ci - Roadway Contributing Circumstances  
 Trfc Ctl - Traffic Control: Dv - Device, Op - Operating  
 Alchl/Drgs - Alcohol Drugs Suspected  
 Veh Mnvr/Ped Actn - Vehicle Maneuver/Pedestrian Action  
 Obj Strk - Object Struck

North Carolina Department of Transportation  
Traffic Engineering Accident Analysis System  
Intersection Analysis Report

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**Summary Statistics**

**High Level Crash Summary**

| <b>Crash Type</b>                 | <b>Number of<br/>Crashes</b> | <b>Percent<br/>of Total</b> |
|-----------------------------------|------------------------------|-----------------------------|
| Total Crashes                     | 26                           | 100.00                      |
| Fatal Crashes                     | 0                            | 0.00                        |
| Non-Fatal Injury Crashes          | 4                            | 15.38                       |
| Total Injury Crashes              | 4                            | 15.38                       |
| Property Damage Only Crashes      | 22                           | 84.62                       |
| Night Crashes                     | 5                            | 19.23                       |
| Wet Crashes                       | 2                            | 7.69                        |
| Alcohol/Drugs Involvement Crashes | 1                            | 3.85                        |

**Crash Severity Summary**

| <b>Crash Type</b>            | <b>Number of<br/>Crashes</b> | <b>Percent<br/>of Total</b> |
|------------------------------|------------------------------|-----------------------------|
| Total Crashes                | 26                           | 100.00                      |
| Fatal Crashes                | 0                            | 0.00                        |
| Class A Crashes              | 0                            | 0.00                        |
| Class B Crashes              | 2                            | 7.69                        |
| Class C Crashes              | 2                            | 7.69                        |
| Property Damage Only Crashes | 22                           | 84.62                       |

**Vehicle Exposure Statistics**

Annual ADT = 11000

Total Vehicle Exposure = 6.69 (MEV)

| <b>Crash Rate</b>    | <b>Crashes Per 100 Million<br/>Vehicles Entered</b> |
|----------------------|-----------------------------------------------------|
| Total Crash Rate     | 388.76                                              |
| Fatal Crash Rate     | 0.00                                                |
| Non Fatal Crash Rate | 59.81                                               |
| Night Crash Rate     | 74.76                                               |
| Wet Crash Rate       | 29.90                                               |
| EPDO Rate            | 831.34                                              |

**North Carolina Department of Transportation  
Traffic Engineering Accident Analysis System  
Intersection Analysis Report**

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**Miscellaneous Statistics**

|                                      |           |
|--------------------------------------|-----------|
| Severity Index =                     | 2.14      |
| EPDO Crash Index =                   | 55.60     |
| Estimated Property Damage Total = \$ | 176450.00 |

**Accident Type Summary**

| <b>Accident Type</b>          | <b>Number of<br/>Crashes</b> | <b>Percent<br/>of Total</b> |
|-------------------------------|------------------------------|-----------------------------|
| ANGLE                         | 9                            | 34.62                       |
| FIXED OBJECT                  | 1                            | 3.85                        |
| LEFT TURN, DIFFERENT ROADWAYS | 1                            | 3.85                        |
| REAR END, SLOW OR STOP        | 11                           | 42.31                       |
| SIDESWIPE, SAME DIRECTION     | 4                            | 15.38                       |

**Injury Summary**

| <b>Injury Type</b>       | <b>Number of<br/>Injuries</b> | <b>Percent<br/>of Total</b> |
|--------------------------|-------------------------------|-----------------------------|
| Fatal Injuries           | 0                             | 0.00                        |
| Class A Injuries         | 0                             | 0.00                        |
| Class B Injuries         | 2                             | 40.00                       |
| Class C Injuries         | 3                             | 60.00                       |
| Total Non-Fatal Injuries | 5                             | 100.00                      |
| Total Injuries           | 5                             | 100.00                      |

**North Carolina Department of Transportation  
Traffic Engineering Accident Analysis System  
Intersection Analysis Report**

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**Monthly Summary**

| <b>Month</b> | <b>Number of<br/>Crashes</b> | <b>Percent<br/>of Total</b> |
|--------------|------------------------------|-----------------------------|
| Jan          | 2                            | 7.69                        |
| Feb          | 6                            | 23.08                       |
| Mar          | 2                            | 7.69                        |
| Apr          | 0                            | 0.00                        |
| May          | 5                            | 19.23                       |
| Jun          | 1                            | 3.85                        |
| Jul          | 2                            | 7.69                        |
| Aug          | 2                            | 7.69                        |
| Sep          | 2                            | 7.69                        |
| Oct          | 2                            | 7.69                        |
| Nov          | 1                            | 3.85                        |
| Dec          | 1                            | 3.85                        |

**Daily Summary**

| <b>Day</b> | <b>Number of<br/>Crashes</b> | <b>Percent<br/>of Total</b> |
|------------|------------------------------|-----------------------------|
| Mon        | 3                            | 11.54                       |
| Tue        | 2                            | 7.69                        |
| Wed        | 5                            | 19.23                       |
| Thu        | 6                            | 23.08                       |
| Fri        | 3                            | 11.54                       |
| Sat        | 3                            | 11.54                       |
| Sun        | 4                            | 15.38                       |

**North Carolina Department of Transportation  
Traffic Engineering Accident Analysis System  
Intersection Analysis Report**

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**Hourly Summary**

| <b>Hour</b> | <b>Number of<br/>Crashes</b> | <b>Percent<br/>of Total</b> |
|-------------|------------------------------|-----------------------------|
| 0000-0059   | 0                            | 0.00                        |
| 0100-0159   | 0                            | 0.00                        |
| 0200-0259   | 0                            | 0.00                        |
| 0300-0359   | 0                            | 0.00                        |
| 0400-0459   | 0                            | 0.00                        |
| 0500-0559   | 0                            | 0.00                        |
| 0600-0659   | 0                            | 0.00                        |
| 0700-0759   | 2                            | 7.69                        |
| 0800-0859   | 2                            | 7.69                        |
| 0900-0959   | 2                            | 7.69                        |
| 1000-1059   | 1                            | 3.85                        |
| 1100-1159   | 0                            | 0.00                        |
| 1200-1259   | 3                            | 11.54                       |
| 1300-1359   | 1                            | 3.85                        |
| 1400-1459   | 3                            | 11.54                       |
| 1500-1559   | 4                            | 15.38                       |
| 1600-1659   | 1                            | 3.85                        |
| 1700-1759   | 2                            | 7.69                        |
| 1800-1859   | 1                            | 3.85                        |
| 1900-1959   | 1                            | 3.85                        |
| 2000-2059   | 1                            | 3.85                        |
| 2100-2159   | 0                            | 0.00                        |
| 2200-2259   | 0                            | 0.00                        |
| 2300-2359   | 2                            | 7.69                        |

**North Carolina Department of Transportation  
Traffic Engineering Accident Analysis System  
Intersection Analysis Report**

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**Light and Road Conditions Summary**

| Condition | Dry | Wet | Other | Total |
|-----------|-----|-----|-------|-------|
| Day       | 19  | 2   | 0     | 21    |
| Dark      | 5   | 0   | 0     | 5     |
| Other     | 0   | 0   | 0     | 0     |
| Total     | 24  | 2   | 0     | 26    |

**Object Struck Summary**

| Object Type         | Times Struck | Percent of Total |
|---------------------|--------------|------------------|
| MEDIAN BARRIER FACE | 1            | 100.00           |

**Vehicle Type Summary**

| Vehicle Type                  | Number Involved | Percent of Total |
|-------------------------------|-----------------|------------------|
| LIGHT TRUCK (MINI-VAN, PANEL) | 1               | 1.92             |
| OTHER                         | 1               | 1.92             |
| PASSENGER CAR                 | 28              | 53.85            |
| PICKUP                        | 5               | 9.62             |
| SPORT UTILITY                 | 13              | 25.00            |
| UNKNOWN                       | 2               | 3.85             |
| VAN                           | 2               | 3.85             |



North Carolina Department of Transportation  
Traffic Engineering Accident Analysis System  
Intersection Analysis Report

**Yearly Totals Summary**

**Accident Totals**

| Year  | Total<br>Accidents | Fatal<br>Accidents | Injury<br>Accidents | Property Damage<br>Only Accidents |
|-------|--------------------|--------------------|---------------------|-----------------------------------|
| 2018  | 1                  | 0                  | 0                   | 1                                 |
| 2019  | 14                 | 0                  | 1                   | 13                                |
| 2020  | 11                 | 0                  | 3                   | 8                                 |
| Total | 26                 | 0                  | 4                   | 22                                |

**Injury Totals**

| Year  | Fatal Injuries | Class A, B,<br>or C Injuries |
|-------|----------------|------------------------------|
| 2018  | 0              | 0                            |
| 2019  | 0              | 1                            |
| 2020  | 0              | 4                            |
| Total | 0              | 5                            |

**Miscellaneous Totals**

| Year  | Property Damage | EPDO Index |
|-------|-----------------|------------|
| 2018  | \$ 2500         | 1.00       |
| 2019  | \$ 71750        | 21.40      |
| 2020  | \$ 102200       | 33.20      |
| Total | \$ 176450       | 55.60      |

**Type of Accident Totals**

| Year  | Left Turn | Right Turn | Rear End | Run Off Road &<br>Fixed Object | Angle | Side Swipe | Other |
|-------|-----------|------------|----------|--------------------------------|-------|------------|-------|
| 2018  | 0         | 0          | 0        | 0                              | 0     | 1          | 0     |
| 2019  | 0         | 0          | 5        | 1                              | 5     | 3          | 0     |
| 2020  | 1         | 0          | 6        | 0                              | 4     | 0          | 0     |
| Total | 1         | 0          | 11       | 1                              | 9     | 4          | 0     |

**North Carolina Department of Transportation  
Traffic Engineering Accident Analysis System  
Intersection Analysis Report**

**Study Criteria Summary**

**County:** MECKLENBURG      **City:** All and Rural  
**Date:** 07/01/2017 to 06/30/2020      **Study:** 41000061611  
**Location:** SR 3180 (Stevens Mill Rd) at SR 3177 (Mt. Harmony Church Rd)

**Report Details**

| Acc No | Crash ID  | Date                | Accident Type        | Total Damage           | Injuries |           |   |   | Condition |   |   | Road |    | Trfc Ctl |    |
|--------|-----------|---------------------|----------------------|------------------------|----------|-----------|---|---|-----------|---|---|------|----|----------|----|
|        |           |                     |                      |                        | F        | A         | B | C | R         | L | W | Ch   | Ci | Dv       | Op |
| 1      | 105167370 | 07/22/2017<br>13:56 | ANGLE                | \$ 6000                | 0        | 0         | 0 | 0 | 1         | 1 | 1 | 1    | 0  | 1        | 1  |
| Unit   | 1 : 5     | Alchl/Drgs: 0       | Speed: 15 MPH Dir: W | Veh Mnvr / Ped Actn: 4 |          | Obj Strk: |   |   |           |   |   |      |    |          |    |
| Unit   | 2 : 4     | Alchl/Drgs: 0       | Speed: 35 MPH Dir: N | Veh Mnvr / Ped Actn: 4 |          | Obj Strk: |   |   |           |   |   |      |    |          |    |
| 2      | 105408797 | 03/12/2018<br>17:20 | ANGLE                | \$ 8000                | 0        | 0         | 0 | 0 | 2         | 1 | 2 | 2    | 0  | 1        | 1  |
| Unit   | 1 : 4     | Alchl/Drgs: 0       | Speed: 25 MPH Dir: W | Veh Mnvr / Ped Actn: 4 |          | Obj Strk: |   |   |           |   |   |      |    |          |    |
| Unit   | 2 : 1     | Alchl/Drgs: 0       | Speed: 40 MPH Dir: N | Veh Mnvr / Ped Actn: 4 |          | Obj Strk: |   |   |           |   |   |      |    |          |    |
| 3      | 105617560 | 09/28/2018<br>15:30 | ANGLE                | \$ 2400                | 0        | 0         | 0 | 0 | 1         | 1 | 1 | 1    | 0  | 0        |    |
| Unit   | 1 : 1     | Alchl/Drgs: 0       | Speed: 10 MPH Dir: S | Veh Mnvr / Ped Actn: 9 |          | Obj Strk: |   |   |           |   |   |      |    |          |    |
| Unit   | 2 : 2     | Alchl/Drgs: 0       | Speed: 20 MPH Dir: S | Veh Mnvr / Ped Actn: 4 |          | Obj Strk: |   |   |           |   |   |      |    |          |    |

**Legend for Report Details:**  
 Acc No - Accident Number  
 Injuries: F - Fatal, A - Class A, B - Class B, C - Class C  
 Condition: R - Road Surface, L - Ambient Light, W - Weather  
 Rd Ch - Road Character  
 Rd Ci - Roadway Contributing Circumstances  
 Trfc Ctl - Traffic Control: Dv - Device, Op - Operating  
 Alchl/Drgs - Alcohol Drugs Suspected  
 Veh Mnvr/Ped Actn - Vehicle Maneuver/Pedestrian Action  
 Obj Strk - Object Struck

North Carolina Department of Transportation  
Traffic Engineering Accident Analysis System  
Intersection Analysis Report

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**Summary Statistics**

**High Level Crash Summary**

| Crash Type                        | Number of Crashes | Percent of Total |
|-----------------------------------|-------------------|------------------|
| Total Crashes                     | 3                 | 100.00           |
| Fatal Crashes                     | 0                 | 0.00             |
| Non-Fatal Injury Crashes          | 0                 | 0.00             |
| Total Injury Crashes              | 0                 | 0.00             |
| Property Damage Only Crashes      | 3                 | 100.00           |
| Night Crashes                     | 0                 | 0.00             |
| Wet Crashes                       | 1                 | 33.33            |
| Alcohol/Drugs Involvement Crashes | 0                 | 0.00             |

**Crash Severity Summary**

| Crash Type                   | Number of Crashes | Percent of Total |
|------------------------------|-------------------|------------------|
| Total Crashes                | 3                 | 100.00           |
| Fatal Crashes                | 0                 | 0.00             |
| Class A Crashes              | 0                 | 0.00             |
| Class B Crashes              | 0                 | 0.00             |
| Class C Crashes              | 0                 | 0.00             |
| Property Damage Only Crashes | 3                 | 100.00           |

**Vehicle Exposure Statistics**

Annual ADT = 4600

Total Vehicle Exposure = 5.04 (MEV)

| Crash Rate           | Crashes Per 100 Million Vehicles Entered |
|----------------------|------------------------------------------|
| Total Crash Rate     | 59.50                                    |
| Fatal Crash Rate     | 0.00                                     |
| Non Fatal Crash Rate | 0.00                                     |
| Night Crash Rate     | 0.00                                     |
| Wet Crash Rate       | 19.83                                    |
| EPDO Rate            | 59.50                                    |

**North Carolina Department of Transportation  
Traffic Engineering Accident Analysis System  
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**Miscellaneous Statistics**

|                                      |          |
|--------------------------------------|----------|
| Severity Index =                     | 1.00     |
| EPDO Crash Index =                   | 3.00     |
| Estimated Property Damage Total = \$ | 16400.00 |

**Accident Type Summary**

| <b>Accident Type</b> | <b>Number of<br/>Crashes</b> | <b>Percent<br/>of Total</b> |
|----------------------|------------------------------|-----------------------------|
| ANGLE                | 3                            | 100.00                      |

**Injury Summary**

| <b>Injury Type</b>       | <b>Number of<br/>Injuries</b> | <b>Percent<br/>of Total</b> |
|--------------------------|-------------------------------|-----------------------------|
| Fatal Injuries           | 0                             | 0.00                        |
| Class A Injuries         | 0                             | 0.00                        |
| Class B Injuries         | 0                             | 0.00                        |
| Class C Injuries         | 0                             | 0.00                        |
| Total Non-Fatal Injuries | 0                             | 0.00                        |
| Total Injuries           | 0                             | 0.00                        |

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**Monthly Summary**

| <b>Month</b> | <b>Number of<br/>Crashes</b> | <b>Percent<br/>of Total</b> |
|--------------|------------------------------|-----------------------------|
| Jan          | 0                            | 0.00                        |
| Feb          | 0                            | 0.00                        |
| Mar          | 1                            | 33.33                       |
| Apr          | 0                            | 0.00                        |
| May          | 0                            | 0.00                        |
| Jun          | 0                            | 0.00                        |
| Jul          | 1                            | 33.33                       |
| Aug          | 0                            | 0.00                        |
| Sep          | 1                            | 33.33                       |
| Oct          | 0                            | 0.00                        |
| Nov          | 0                            | 0.00                        |
| Dec          | 0                            | 0.00                        |

**Daily Summary**

| <b>Day</b> | <b>Number of<br/>Crashes</b> | <b>Percent<br/>of Total</b> |
|------------|------------------------------|-----------------------------|
| Mon        | 1                            | 33.33                       |
| Tue        | 0                            | 0.00                        |
| Wed        | 0                            | 0.00                        |
| Thu        | 0                            | 0.00                        |
| Fri        | 1                            | 33.33                       |
| Sat        | 1                            | 33.33                       |
| Sun        | 0                            | 0.00                        |

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**Hourly Summary**

| <b>Hour</b> | <b>Number of<br/>Crashes</b> | <b>Percent<br/>of Total</b> |
|-------------|------------------------------|-----------------------------|
| 0000-0059   | 0                            | 0.00                        |
| 0100-0159   | 0                            | 0.00                        |
| 0200-0259   | 0                            | 0.00                        |
| 0300-0359   | 0                            | 0.00                        |
| 0400-0459   | 0                            | 0.00                        |
| 0500-0559   | 0                            | 0.00                        |
| 0600-0659   | 0                            | 0.00                        |
| 0700-0759   | 0                            | 0.00                        |
| 0800-0859   | 0                            | 0.00                        |
| 0900-0959   | 0                            | 0.00                        |
| 1000-1059   | 0                            | 0.00                        |
| 1100-1159   | 0                            | 0.00                        |
| 1200-1259   | 0                            | 0.00                        |
| 1300-1359   | 1                            | 33.33                       |
| 1400-1459   | 0                            | 0.00                        |
| 1500-1559   | 1                            | 33.33                       |
| 1600-1659   | 0                            | 0.00                        |
| 1700-1759   | 1                            | 33.33                       |
| 1800-1859   | 0                            | 0.00                        |
| 1900-1959   | 0                            | 0.00                        |
| 2000-2059   | 0                            | 0.00                        |
| 2100-2159   | 0                            | 0.00                        |
| 2200-2259   | 0                            | 0.00                        |
| 2300-2359   | 0                            | 0.00                        |

**North Carolina Department of Transportation  
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**Light and Road Conditions Summary**

| <b>Condition</b> | <b>Dry</b> | <b>Wet</b> | <b>Other</b> | <b>Total</b> |
|------------------|------------|------------|--------------|--------------|
| Day              | 2          | 1          | 0            | 3            |
| Dark             | 0          | 0          | 0            | 0            |
| Other            | 0          | 0          | 0            | 0            |
| Total            | 2          | 1          | 0            | 3            |

**Vehicle Type Summary**

| <b>Vehicle Type</b> | <b>Number<br/>Involved</b> | <b>Percent<br/>of Total</b> |
|---------------------|----------------------------|-----------------------------|
| PASSENGER CAR       | 2                          | 33.33                       |
| PICKUP              | 1                          | 16.67                       |
| SPORT UTILITY       | 2                          | 33.33                       |
| VAN                 | 1                          | 16.67                       |

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**Yearly Totals Summary**

**Accident Totals**

| Year  | Total<br>Accidents | Fatal<br>Accidents | Injury<br>Accidents | Property Damage<br>Only Accidents |
|-------|--------------------|--------------------|---------------------|-----------------------------------|
| 2017  | 1                  | 0                  | 0                   | 1                                 |
| 2018  | 2                  | 0                  | 0                   | 2                                 |
| 2019  | 0                  | 0                  | 0                   | 0                                 |
| 2020  | 0                  | 0                  | 0                   | 0                                 |
| Total | 3                  | 0                  | 0                   | 3                                 |

**Injury Totals**

| Year  | Fatal Injuries | Class A, B,<br>or C Injuries |
|-------|----------------|------------------------------|
| 2017  | 0              | 0                            |
| 2018  | 0              | 0                            |
| 2019  | 0              | 0                            |
| 2020  | 0              | 0                            |
| Total | 0              | 0                            |

**Miscellaneous Totals**

| Year  | Property Damage | EPDO Index |
|-------|-----------------|------------|
| 2017  | \$ 6000         | 1.00       |
| 2018  | \$ 10400        | 2.00       |
| 2019  | \$ 0            | 0.00       |
| 2020  | \$ 0            | 0.00       |
| Total | \$ 16400        | 3.00       |

**Type of Accident Totals**

| Year  | Run Off Road & |            |          |              |       |            |       |
|-------|----------------|------------|----------|--------------|-------|------------|-------|
|       | Left Turn      | Right Turn | Rear End | Fixed Object | Angle | Side Swipe | Other |
| 2017  | 0              | 0          | 0        | 0            | 1     | 0          | 0     |
| 2018  | 0              | 0          | 0        | 0            | 2     | 0          | 0     |
| 2019  | 0              | 0          | 0        | 0            | 0     | 0          | 0     |
| 2020  | 0              | 0          | 0        | 0            | 0     | 0          | 0     |
| Total | 0              | 0          | 0        | 0            | 3     | 0          | 0     |



**North Carolina Department of Transportation  
Traffic Engineering Accident Analysis System  
Intersection Analysis Report**

**Study Criteria Summary**

**County:** UNION **City:** All and Rural  
**Date:** 07/01/2017 to 06/30/2020 **Study:** 41000061612  
**Location:** SR 1524 (Stevens Mill Rd) at SR 1523 (Oak Springs Rd)

**Report Details**

| Acc No | Crash ID  | Date                | Accident Type                 | Total Damage         | Injuries |   |   |   | Condition |   |   | Road |    | Trfc Ctl |    |
|--------|-----------|---------------------|-------------------------------|----------------------|----------|---|---|---|-----------|---|---|------|----|----------|----|
|        |           |                     |                               |                      | F        | A | B | C | R         | L | W | Ch   | Ci | Dv       | Op |
| 1      | 105241209 | 10/08/2017<br>01:56 | RAN OFF ROAD - STRAIGHT       | \$ 8000              | 0        | 0 | 0 | 0 | 2         | 5 | 3 | 1    | 0  | 1        | 1  |
| Unit   | 1 : 1     | Alchl/Drgs: 0       | Speed: 35 MPH Dir: W          | Veh Mnvr / Ped Actn: |          |   |   | 4 | Obj Strk: |   |   | 58   |    |          |    |
| 2      | 105242113 | 10/09/2017<br>08:31 | RAN OFF ROAD - LEFT           | \$ 2400              | 0        | 0 | 0 | 0 | 1         | 1 | 1 | 1    | 0  | 1        | 1  |
| Unit   | 1 : 1     | Alchl/Drgs: 0       | Speed: 30 MPH Dir: S          | Veh Mnvr / Ped Actn: |          |   |   | 7 | Obj Strk: |   |   |      |    |          |    |
| 3      | 105359724 | 01/24/2018<br>04:00 | RAN OFF ROAD - STRAIGHT       | \$ 4000              | 0        | 0 | 0 | 0 | 1         | 5 | 1 | 1    | 0  | 1        | 1  |
| Unit   | 1 : 2     | Alchl/Drgs: 1       | Speed: 40 MPH Dir: W          | Veh Mnvr / Ped Actn: |          |   |   | 4 | Obj Strk: |   |   | 58   |    |          |    |
| 4      | 105359725 | 01/24/2018<br>08:10 | SIDESWIPE, OPPOSITE DIRECTION | \$ 6000              | 0        | 0 | 0 | 0 | 1         | 1 | 1 | 1    | 0  | 1        | 1  |
| Unit   | 1 : 4     | Alchl/Drgs: 0       | Speed: 25 MPH Dir: S          | Veh Mnvr / Ped Actn: |          |   |   | 4 | Obj Strk: |   |   |      |    |          |    |
| Unit   | 2 : 4     | Alchl/Drgs: 0       | Speed: 0 MPH Dir: N           | Veh Mnvr / Ped Actn: |          |   |   | 1 | Obj Strk: |   |   |      |    |          |    |
| 5      | 105385750 | 02/18/2018<br>19:19 | RAN OFF ROAD - STRAIGHT       | \$ 500               | 0        | 0 | 0 | 0 | 1         | 5 | 1 | 1    | 0  | 1        | 1  |
| Unit   | 1 : 1     | Alchl/Drgs: 0       | Speed: 35 MPH Dir: N          | Veh Mnvr / Ped Actn: |          |   |   | 4 | Obj Strk: |   |   | 58   |    |          |    |
| 6      | 105426420 | 03/24/2018<br>21:44 | RAN OFF ROAD - STRAIGHT       | \$ 2500              | 0        | 0 | 0 | 0 | 2         | 5 | 3 | 2    | 0  | 1        | 1  |
| Unit   | 1 : 1     | Alchl/Drgs: 0       | Speed: 35 MPH Dir: NW         | Veh Mnvr / Ped Actn: |          |   |   | 4 | Obj Strk: |   |   |      |    |          |    |
| 7      | 105595506 | 08/27/2018<br>21:04 | RAN OFF ROAD - STRAIGHT       | \$ 3000              | 0        | 0 | 0 | 0 | 1         | 5 | 1 | 1    | 0  | 1        | 1  |
| Unit   | 1 : 1     | Alchl/Drgs: 0       | Speed: 30 MPH Dir: N          | Veh Mnvr / Ped Actn: |          |   |   | 4 | Obj Strk: |   |   |      |    |          |    |
| 8      | 105650582 | 10/25/2018<br>17:39 | ANGLE                         | \$ 6000              | 0        | 0 | 0 | 0 | 1         | 1 | 1 | 1    | 0  | 1        | 1  |
| Unit   | 1 : 4     | Alchl/Drgs: 0       | Speed: 15 MPH Dir: NW         | Veh Mnvr / Ped Actn: |          |   |   | 8 | Obj Strk: |   |   |      |    |          |    |
| Unit   | 2 : 1     | Alchl/Drgs: 0       | Speed: 15 MPH Dir: W          | Veh Mnvr / Ped Actn: |          |   |   | 4 | Obj Strk: |   |   |      |    |          |    |
| 9      | 105713709 | 12/18/2018<br>11:53 | REAR END, SLOW OR STOP        | \$ 500               | 0        | 0 | 0 | 0 | 1         | 1 | 1 | 1    | 0  |          |    |
| Unit   | 1 : 4     | Alchl/Drgs: 0       | Speed: 10 MPH Dir: S          | Veh Mnvr / Ped Actn: |          |   |   | 4 | Obj Strk: |   |   |      |    |          |    |
| Unit   | 2 : 4     | Alchl/Drgs: 0       | Speed: 0 MPH Dir: S           | Veh Mnvr / Ped Actn: |          |   |   | 1 | Obj Strk: |   |   |      |    |          |    |

08/20/2020

All data presented in this report comes explicitly from the Traffic Engineering Accident Analysis System based upon various input criteria provided by the report's creator. The onus is strictly upon the user of this report to exercise due diligence in interpreting and further representing this data.

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**North Carolina Department of Transportation  
Traffic Engineering Accident Analysis System  
Intersection Analysis Report**

| Acc No | Crash ID  | Date                | Accident Type           | Total Damage         | Injuries |   |   |    | Condition |   |   | Road |    | Trfc Ctl |    |
|--------|-----------|---------------------|-------------------------|----------------------|----------|---|---|----|-----------|---|---|------|----|----------|----|
|        |           |                     |                         |                      | F        | A | B | C  | R         | L | W | Ch   | Ci | Dv       | Op |
| 10     | 105793378 | 03/05/2019<br>20:59 | RAN OFF ROAD - STRAIGHT | \$ 1000              | 0        | 0 | 0 | 0  | 1         | 5 | 1 | 1    | 0  | 1        | 1  |
| Unit   | 1 : 4     | Alchl/Drgs: 1       | Speed: 35 MPH Dir: N    | Veh Mnvr / Ped Actn: |          |   |   | 4  | Obj Strk: |   |   | 58   |    |          |    |
| 11     | 105999689 | 09/23/2019<br>17:10 | REAR END, SLOW OR STOP  | \$ 1200              | 0        | 0 | 0 | 0  | 1         | 1 | 1 | 1    | 0  | 1        | 1  |
| Unit   | 1 : 2     | Alchl/Drgs: 0       | Speed: 30 MPH Dir: N    | Veh Mnvr / Ped Actn: |          |   |   | 4  | Obj Strk: |   |   |      |    |          |    |
| Unit   | 2 : 2     | Alchl/Drgs: 0       | Speed: 0 MPH Dir: N     | Veh Mnvr / Ped Actn: |          |   |   | 1  | Obj Strk: |   |   |      |    |          |    |
| 12     | 106028001 | 10/16/2019<br>07:48 | ANGLE                   | \$ 10000             | 0        | 0 | 1 | 0  | 2         | 3 | 2 | 1    | 0  | 1        | 1  |
| Unit   | 1 : 1     | Alchl/Drgs: 0       | Speed: 10 MPH Dir: W    | Veh Mnvr / Ped Actn: |          |   |   | 8  | Obj Strk: |   |   |      |    |          |    |
| Unit   | 2 : 1     | Alchl/Drgs: 0       | Speed: 45 MPH Dir: N    | Veh Mnvr / Ped Actn: |          |   |   | 4  | Obj Strk: |   |   |      |    |          |    |
| 13     | 106087898 | 12/05/2019<br>07:49 | ANGLE                   | \$ 5500              | 0        | 0 | 0 | 0  | 1         | 1 | 1 | 1    | 0  | 1        | 1  |
| Unit   | 1 : 1     | Alchl/Drgs: 0       | Speed: 45 MPH Dir: E    | Veh Mnvr / Ped Actn: |          |   |   | 4  | Obj Strk: |   |   |      |    |          |    |
| Unit   | 2 : 4     | Alchl/Drgs: 0       | Speed: 10 MPH Dir: N    | Veh Mnvr / Ped Actn: |          |   |   | 8  | Obj Strk: |   |   |      |    |          |    |
| 14     | 106166687 | 02/25/2020<br>07:47 | REAR END, SLOW OR STOP  | \$ 4500              | 0        | 0 | 0 | 0  | 2         | 1 | 3 | 1    | 0  | 1        | 1  |
| Unit   | 1 : 4     | Alchl/Drgs: 0       | Speed: 10 MPH Dir: N    | Veh Mnvr / Ped Actn: |          |   |   | 11 | Obj Strk: |   |   |      |    |          |    |
| Unit   | 2 : 1     | Alchl/Drgs: 0       | Speed: 30 MPH Dir: N    | Veh Mnvr / Ped Actn: |          |   |   | 4  | Obj Strk: |   |   |      |    |          |    |

**Legend for  
Report Details:**

Acc No - Accident Number  
Injuries: F - Fatal, A - Class A, B - Class B, C - Class C  
Condition: R - Road Surface, L - Ambient Light, W - Weather  
Rd Ch - Road Character  
Rd Ci - Roadway Contributing Circumstances  
Trfc Ctl - Traffic Control: Dv - Device, Op - Operating  
Alchl/Drgs - Alcohol Drugs Suspected  
Veh Mnvr/Ped Actn - Vehicle Maneuver/Pedestrian Action  
Obj Strk - Object Struck

North Carolina Department of Transportation  
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**Summary Statistics**

**High Level Crash Summary**

| <b>Crash Type</b>                 | <b>Number of Crashes</b> | <b>Percent of Total</b> |
|-----------------------------------|--------------------------|-------------------------|
| Total Crashes                     | 14                       | 100.00                  |
| Fatal Crashes                     | 0                        | 0.00                    |
| Non-Fatal Injury Crashes          | 1                        | 7.14                    |
| Total Injury Crashes              | 1                        | 7.14                    |
| Property Damage Only Crashes      | 13                       | 92.86                   |
| Night Crashes                     | 6                        | 42.86                   |
| Wet Crashes                       | 4                        | 28.57                   |
| Alcohol/Drugs Involvement Crashes | 2                        | 14.29                   |

**Crash Severity Summary**

| <b>Crash Type</b>            | <b>Number of Crashes</b> | <b>Percent of Total</b> |
|------------------------------|--------------------------|-------------------------|
| Total Crashes                | 14                       | 100.00                  |
| Fatal Crashes                | 0                        | 0.00                    |
| Class A Crashes              | 0                        | 0.00                    |
| Class B Crashes              | 1                        | 7.14                    |
| Class C Crashes              | 0                        | 0.00                    |
| Property Damage Only Crashes | 13                       | 92.86                   |

**Vehicle Exposure Statistics**

Annual ADT = 9200

Total Vehicle Exposure = 10.08 (MEV)

| <b>Crash Rate</b>    | <b>Crashes Per 100 Million Vehicles Entered</b> |
|----------------------|-------------------------------------------------|
| Total Crash Rate     | 138.84                                          |
| Fatal Crash Rate     | 0.00                                            |
| Non Fatal Crash Rate | 9.92                                            |
| Night Crash Rate     | 59.50                                           |
| Wet Crash Rate       | 39.67                                           |
| EPDO Rate            | 212.23                                          |

**North Carolina Department of Transportation  
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**Miscellaneous Statistics**

|                                      |          |
|--------------------------------------|----------|
| Severity Index =                     | 1.53     |
| EPDO Crash Index =                   | 21.40    |
| Estimated Property Damage Total = \$ | 55100.00 |

**Accident Type Summary**

| <b>Accident Type</b>          | <b>Number of<br/>Crashes</b> | <b>Percent<br/>of Total</b> |
|-------------------------------|------------------------------|-----------------------------|
| ANGLE                         | 3                            | 21.43                       |
| RAN OFF ROAD - LEFT           | 1                            | 7.14                        |
| RAN OFF ROAD - STRAIGHT       | 6                            | 42.86                       |
| REAR END, SLOW OR STOP        | 3                            | 21.43                       |
| SIDESWIPE, OPPOSITE DIRECTION | 1                            | 7.14                        |

**Injury Summary**

| <b>Injury Type</b>       | <b>Number of<br/>Injuries</b> | <b>Percent<br/>of Total</b> |
|--------------------------|-------------------------------|-----------------------------|
| Fatal Injuries           | 0                             | 0.00                        |
| Class A Injuries         | 0                             | 0.00                        |
| Class B Injuries         | 1                             | 100.00                      |
| Class C Injuries         | 0                             | 0.00                        |
| Total Non-Fatal Injuries | 1                             | 100.00                      |
| Total Injuries           | 1                             | 100.00                      |

**North Carolina Department of Transportation  
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**Monthly Summary**

| <b>Month</b> | <b>Number of<br/>Crashes</b> | <b>Percent<br/>of Total</b> |
|--------------|------------------------------|-----------------------------|
| Jan          | 2                            | 14.29                       |
| Feb          | 2                            | 14.29                       |
| Mar          | 2                            | 14.29                       |
| Apr          | 0                            | 0.00                        |
| May          | 0                            | 0.00                        |
| Jun          | 0                            | 0.00                        |
| Jul          | 0                            | 0.00                        |
| Aug          | 1                            | 7.14                        |
| Sep          | 1                            | 7.14                        |
| Oct          | 4                            | 28.57                       |
| Nov          | 0                            | 0.00                        |
| Dec          | 2                            | 14.29                       |

**Daily Summary**

| <b>Day</b> | <b>Number of<br/>Crashes</b> | <b>Percent<br/>of Total</b> |
|------------|------------------------------|-----------------------------|
| Mon        | 3                            | 21.43                       |
| Tue        | 3                            | 21.43                       |
| Wed        | 3                            | 21.43                       |
| Thu        | 2                            | 14.29                       |
| Fri        | 0                            | 0.00                        |
| Sat        | 1                            | 7.14                        |
| Sun        | 2                            | 14.29                       |

**North Carolina Department of Transportation  
Traffic Engineering Accident Analysis System  
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**Hourly Summary**

| <b>Hour</b> | <b>Number of<br/>Crashes</b> | <b>Percent<br/>of Total</b> |
|-------------|------------------------------|-----------------------------|
| 0000-0059   | 0                            | 0.00                        |
| 0100-0159   | 1                            | 7.14                        |
| 0200-0259   | 0                            | 0.00                        |
| 0300-0359   | 0                            | 0.00                        |
| 0400-0459   | 1                            | 7.14                        |
| 0500-0559   | 0                            | 0.00                        |
| 0600-0659   | 0                            | 0.00                        |
| 0700-0759   | 3                            | 21.43                       |
| 0800-0859   | 2                            | 14.29                       |
| 0900-0959   | 0                            | 0.00                        |
| 1000-1059   | 0                            | 0.00                        |
| 1100-1159   | 1                            | 7.14                        |
| 1200-1259   | 0                            | 0.00                        |
| 1300-1359   | 0                            | 0.00                        |
| 1400-1459   | 0                            | 0.00                        |
| 1500-1559   | 0                            | 0.00                        |
| 1600-1659   | 0                            | 0.00                        |
| 1700-1759   | 2                            | 14.29                       |
| 1800-1859   | 0                            | 0.00                        |
| 1900-1959   | 1                            | 7.14                        |
| 2000-2059   | 1                            | 7.14                        |
| 2100-2159   | 2                            | 14.29                       |
| 2200-2259   | 0                            | 0.00                        |
| 2300-2359   | 0                            | 0.00                        |

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**Light and Road Conditions Summary**

| Condition | Dry | Wet | Other | Total |
|-----------|-----|-----|-------|-------|
| Day       | 6   | 1   | 0     | 7     |
| Dark      | 4   | 2   | 0     | 6     |
| Other     | 0   | 1   | 0     | 1     |
| Total     | 10  | 4   | 0     | 14    |

**Object Struck Summary**

| Object Type | Times Struck | Percent of Total |
|-------------|--------------|------------------|
| DITCH       | 4            | 100.00           |

**Vehicle Type Summary**

| Vehicle Type  | Number Involved | Percent of Total |
|---------------|-----------------|------------------|
| PASSENGER CAR | 10              | 47.62            |
| PICKUP        | 3               | 14.29            |
| SPORT UTILITY | 8               | 38.10            |

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**Yearly Totals Summary**

**Accident Totals**

| Year  | Total<br>Accidents | Fatal<br>Accidents | Injury<br>Accidents | Property Damage<br>Only Accidents |
|-------|--------------------|--------------------|---------------------|-----------------------------------|
| 2017  | 2                  | 0                  | 0                   | 2                                 |
| 2018  | 7                  | 0                  | 0                   | 7                                 |
| 2019  | 4                  | 0                  | 1                   | 3                                 |
| 2020  | 1                  | 0                  | 0                   | 1                                 |
| Total | 14                 | 0                  | 1                   | 13                                |

**Injury Totals**

| Year  | Fatal Injuries | Class A, B,<br>or C Injuries |
|-------|----------------|------------------------------|
| 2017  | 0              | 0                            |
| 2018  | 0              | 0                            |
| 2019  | 0              | 1                            |
| 2020  | 0              | 0                            |
| Total | 0              | 1                            |

**Miscellaneous Totals**

| Year  | Property Damage | EPDO Index |
|-------|-----------------|------------|
| 2017  | \$ 10400        | 2.00       |
| 2018  | \$ 22500        | 7.00       |
| 2019  | \$ 17700        | 11.40      |
| 2020  | \$ 4500         | 1.00       |
| Total | \$ 55100        | 21.40      |

**Type of Accident Totals**

| Year  | Left Turn | Right Turn | Rear End | Run Off Road &<br>Fixed Object | Angle | Side Swipe | Other |
|-------|-----------|------------|----------|--------------------------------|-------|------------|-------|
| 2017  | 0         | 0          | 0        | 2                              | 0     | 0          | 0     |
| 2018  | 0         | 0          | 1        | 4                              | 1     | 1          | 0     |
| 2019  | 0         | 0          | 1        | 1                              | 2     | 0          | 0     |
| 2020  | 0         | 0          | 1        | 0                              | 0     | 0          | 0     |
| Total | 0         | 0          | 3        | 7                              | 3     | 1          | 0     |