

TECHNICAL APPENDIX

APPENDIX A

Scoping Documentation

Andrew Eagle

From: Helms, Amelia C <achelms@ncdot.gov>
Sent: Friday, May 5, 2023 12:44 PM
To: Andrew Eagle; Gardner, Zachary L; Wagner (Volkert), Leah P; Weltner, Robert C
Cc: Kevin Parker; twilliams@withrowcapital.com; randy@drgrp.com; Andrew Poole; Obregon, Felix A; Malik, Hassan A; Olson, David W; Reese, Michael P
Subject: RE: [External] Stevens Mill Road and Idlewild Crossing - D2/3: Stallings

Andrew,

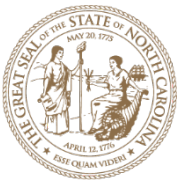
We are in agreement with what you have outlined below.

Thank you,

Amelia Helms, P.E.
Division 10 - District 3
North Carolina Department of Transportation

704 218 5100 office
704 292 1800 fax
achelms@ncdot.gov

130 South Sutherland Avenue
Monroe, NC 28112



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From: Andrew Eagle <AEagle@rameykemp.com>
Sent: Thursday, April 27, 2023 2:49 PM
To: Helms, Amelia C <achelms@ncdot.gov>; Gardner, Zachary L <zlgardner@ncdot.gov>; Wagner (Volkert), Leah P <ext-lpwagner@ncdot.gov>; Weltner, Robert C <rcweltner@ncdot.gov>
Cc: Kevin Parker <kparker@stallingsnc.org>; twilliams@withrowcapital.com; randy@drgrp.com; Andrew Poole <apoole@rameykemp.com>
Subject: RE: [External] Stevens Mill Road and Idlewild Crossing - D3: Stallings

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Hey Amelia,

Thanks for the feedback. I went through the Sante TIA Appendix. For the intersection of Idlewild Road and Stallings Road, the Sante TIA modeled the intersection with improvements needed to be done by the developer, and it modeled a second improvement scenario with the U-4913A roundabout. None of the No-Build, Build, or Build +5 years scenarios

included U-4913A improvements. And I don't see a design year analysis of U-4913A. I recommend the following to be consistent with the Sante TIA:

- Analysis Scenarios
 - 2022 Existing
 - 2025 No-Build – Add Sante Matthews Phase 1 trips/improvements
 - 2025 Build – Add Sante Matthews Phase 1 trips/improvements
 - 2025 Build Improvements – Same as 2025 Build scenario, but adds mitigation to be done by Idlewild Crossings
 - 2025 Build Improvements (U-4913A) – Same as 2025 Build Improvements scenario, but models U-4913A at the intersection of Idlewild Road and Stallings Road
 - 2030 Build (Build +5) – Same as 2025 Build Improvements scenario, but adds more years of background traffic growth, and Sante Matthews Phase 2 trips/improvements
- A signal warrant analysis will be performed for the intersection of Stevens Mill Road and Access C.

Andrew Eagle, PE, PTOE
Senior Traffic Engineering Project Manager

D 704 220 6847 | C 704 467 0325



From: Helms, Amelia C <achelms@ncdot.gov>

Sent: Wednesday, April 26, 2023 11:23 AM

To: Andrew Eagle <AEagle@rameykemp.com>; Gardner, Zachary L <zlgardner@ncdot.gov>; Wagner (Volkert), Leah P <ext-lpwagner@ncdot.gov>; Weltner, Robert C <rcweltner@ncdot.gov>

Cc: Kevin Parker <kparker@stallingsnc.org>; twilliams@withrowcapital.com; randy@drgrp.com; Andrew Poole <apoole@rameykemp.com>

Subject: RE: [External] Stevens Mill Road and Idlewild Crossing - D3: Stallings

Andrew,

Good morning, NCDOT has the following comments on the revised scope submitted 4/11/23:

- We agree with adding Sante Matthews volumes and improvements.
- We disagree with the assertion that, "...scope of Sante Matthews that also did not analyze U-4913 A or B." Congestion Management's sealed review of Sante Matthews included consideration of U-4913A. The analysis and recommendations concentrated on the time period when the development project was fully built, prior to the completion of the TIP project, as that was the most critical in terms of traffic analysis.
- Inclusion of the traffic signal warrant analysis in the TIA is a requirement under Chapter 5, Section L, of the Driveway Manual. It demonstrates the likelihood of a signal to be approved where it is relied upon in the analysis.

Please let me know if you have any questions.

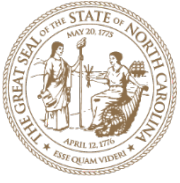
Thank you,

Amelia Helms, P.E.
Division 10 - District 3
North Carolina Department of Transportation

704 218 5100 office

704 292 1800 fax
achelms@ncdot.gov

130 South Sutherland Avenue
Monroe, NC 28112



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From: Andrew Eagle <AEagle@rameykemp.com>
Sent: Wednesday, April 26, 2023 7:58 AM
To: Gardner, Zachary L <zlgardner@ncdot.gov>; Wagner (Volkert), Leah P <ext-lpwagner@ncdot.gov>; Weltner, Robert C <rcweltner@ncdot.gov>; Helms, Amelia C <achelms@ncdot.gov>
Cc: Kevin Parker <kparker@stallingsnc.org>; twilliams@withrowcapital.com; randy@drgrp.com; Andrew Poole <apoole@rameykemp.com>
Subject: RE: [External] Stevens Mill Road and Idlewild Crossing - D2: Stallings
Importance: High

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Good morning,

We need to move forward with the TIA. Does NCDOT approve of the scope submitted on 04-11-2023?

Thank you,

Andrew Eagle, PE, PTOE
Senior Traffic Engineering Project Manager
D 704 220 6847 | C 704 467 0325



From: Andrew Eagle
Sent: Wednesday, April 19, 2023 2:34 PM
To: Gardner, Zachary L <zlgardner@ncdot.gov>; Wagner (Volkert), Leah P <ext-lpwagner@ncdot.gov>; Weltner, Robert C <rcweltner@ncdot.gov>; Helms, Amelia C <achelms@ncdot.gov>
Cc: Kevin Parker <kparker@stallingsnc.org>; twilliams@withrowcapital.com; randy@drgrp.com; Andrew Poole <apoole@rameykemp.com>
Subject: RE: [External] Stevens Mill Road and Idlewild Crossing - D2: Stallings

Amelia,

Give me a call if you have any questions regarding the TIA scope. Can you let us know when to expect your feedback? I assume we'll hear from you by April 25, but wondering if we might get your scope approval before then.

Thanks!

Andrew Eagle, PE, PTOE
Senior Traffic Engineering Project Manager

D 704 220 6847 | C 704 467 0325



From: Andrew Eagle

Sent: Wednesday, April 12, 2023 11:16 AM

To: Gardner, Zachary L <zlgardner@ncdot.gov>; Wagner (Volkert), Leah P <ext-lpwagner@ncdot.gov>; Weltner, Robert C <rcweltner@ncdot.gov>; Helms, Amelia C <achelms@ncdot.gov>

Cc: Kevin Parker <kparker@stallingsnc.org>; twilliams@withrowcapital.com; randy@drgrp.com; Andrew Poole <apoole@rameykemp.com>

Subject: RE: [External] Stevens Mill Road and Idlewild Crossing - D2: Stallings

Hey Zach,

Thanks for bringing Amelia into the email chain. I had not heard she is the acting District Engineer. The scope I attached is the original approved scope without the changes I noted in my email.

Andrew Eagle, PE, PTOE
Senior Traffic Engineering Project Manager

D 704 220 6847 | C 704 467 0325



From: Gardner, Zachary L <zlgardner@ncdot.gov>

Sent: Tuesday, April 11, 2023 3:35 PM

To: Andrew Eagle <AEagle@rameykemp.com>; Wagner (Volkert), Leah P <ext-lpwagner@ncdot.gov>; Weltner, Robert C <rcweltner@ncdot.gov>; Helms, Amelia C <achelms@ncdot.gov>

Cc: Kevin Parker <kparker@stallingsnc.org>; twilliams@withrowcapital.com; randy@drgrp.com; Andrew Poole <apoole@rameykemp.com>

Subject: RE: [External] Stevens Mill Road and Idlewild Crossing - D2: Stallings

Hey Andrew,

I've added Amelia, the acting District engineer as well.

For my clarification, your attachment was the original approved scope w/ no changes or it's an updated scope with the changes you have in red below? I think it was before my time (and Amelia, Leah, and Bob's time as well haha) so I want to make sure we are all on the same page.

Thanks!

Zach Gardner, PE
Division 10 Traffic Engineer
North Carolina Department of Transportation

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zlgardner@ncdot.gov

716 W. Main Street
Albemarle, NC 28001



Email correspondence to and from this address is subject to the North Carolina Public Records Law and may be disclosed to third parties.

From: Andrew Eagle <AEagle@rameykemp.com>
Sent: Tuesday, April 11, 2023 2:32 PM
To: Wagner (Volkert), Leah P <ext-lpwagner@ncdot.gov>; Weltner, Robert C <rcweltner@ncdot.gov>; Gardner, Zachary L <zlgardner@ncdot.gov>
Cc: Kevin Parker <kparker@stallingsnc.org>; twilliams@withrowcapital.com; randy@drgrp.com; Andrew Poole <apoole@rameykemp.com>
Subject: [External] Stevens Mill Road and Idlewild Crossing - D2: Stallings

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Leah/Robert/Zach,

NCDOT approved the scope for the Idlewild Crossing TIA in February of 2022. There have been some changes in the area that affect the scope. Can we move forward with the TIA with the following changes?

- Analysis Scenarios
 - 2022 Existing
 - 2025 No-Build – Add Sante Matthews trips/improvements
 - 2025 Build – Add Sante Matthews trips/improvements
 - 2030 Build (Build +5) – The 2040 design year analysis of U-4913 will be removed and replaced with a Build + 5 years analysis that does not include any improvements from U-4913 A or B. This is consistent with the scope of Sante Matthews that also did not analyze U-4913 A or B.
- We'll be recommending the developer install a traffic signal at the intersection of Stevens Mill Road and Access C. Preliminary results show the Access C approach operating poorly without a signal. LOS F (71 seconds) during the AM peak hour. LOS F (580.8 seconds) during the PM peak hour. We typically note in the TIA that the developer will provide a signal warrant analysis prior to installing the traffic signal. This can be provided with updated traffic counts closer to when the signal is needed. No signal warrant analysis in the TIA.

Thanks!

Andrew Eagle, PE, PTOE



NCDOT Traffic Impact Analysis Need Screening / Scoping Request



TIA Need
Screening



TIA
Scoping



TIA
Submittal

A Traffic Impact Analysis (TIA) may be required for developments based on the site trip generation estimates, site context, or at the discretion of the NCDOT District Engineer. The Applicant or the TIA Consultant shall submit this form along with the site plan to the District Engineer to determine the TIA need and, if a TIA is required, initiate the TIA scoping process. Without an approved scope, the TIA is incomplete and will be rejected until the study is revised to conform to NCDOT's TIA requirements.

Project Name: Stevens Mill Road & Idlewild Crossing **Previous Name:** If Applicable

Location: North of Idlewild Rd, West of Stevens Mill Rd **County:** Union **Municipality:** Stallings

Project Description: A proposed mixed use site consisting of Grocery, retail, c-store, fast-food w/ drive-thru development.

Project Contact: Applicant
Company Name Cambridge Properties&Idlewild Village, llc
Contact Person Jay Priester & Terry Williams
Phone Number 704.333.2393 & 704.344.1868
Email jyp@cambridgeprop.com
Mailing Address 1341 E. Morehead St., Ste. 201
Charlotte, NC 28204

TIA Consultant
Ramey Kemp Associates
Michael Karpinski, PE
919.987.1300
mkarpinski@rameykemp.com
5808 Fargindon Place
Raleigh, NC 27609

Site Plan Prepared By: Design Resource Group

See site plan/vicinity map requirements on page 2.

Site Plan Date: 01-25-2022

Parcel Size: 12.94 Acre(s)

Anticipated Build-Out Year: 2025

Weekday Site Trip Generation - Do NOT adjust for mode split, pass-by, internal capture, or diverted trips.

ITE LUC	Proposed Land Use	Size	Unit	Daily Trips	Peak Hour Type	AM Peak Hour Trips			PM Peak Hour Trips			Data Source
						Enter	Exit	Total	Enter	Exit	Total	
822	Retail	8950	SF	608	Adj. Street	16	11	27	36	36	72	ITE Equation
822	Retail	8150	SF	574	Adj. Street	15	10	25	33	34	67	ITE Equation
822	Retail	8875	SF	604	Adj. Street	16	11	27	36	36	72	ITE Equation
850	Supermarket	48840	SF	4584	Adj. Street	82	58	140	218	219	437	ITE Rate
934	FF w/ Drive-Thru	4500	SF	2104	Adj. Street	102	99	201	77	72	149	ITE Rate
945	C-Store/Gas Station	5000	SF	6418	Adj. Street	228	229	457	197	198	395	ITE Rate
822	Retail	6000	SF	484	Adj. Street	12	9	21	27	27	54	ITE Equation
Total				15376		471	427	898	624	622	1246	

Refer to the current [NCDOT Congestion Management Capacity Analysis Guidelines](#) for acceptable trip calculation methods and data sources.

**Explain local or other data sources, if used: ITE Trip Generation Manual, 11th Edition

- ☒ The estimated site trips meet NCDOT's TIA trip threshold of 3,000 daily trips.
- ☒ The estimated site trips meet the municipal TIA trip threshold of 1000 daily trips, 100 peak hour trips
- ☒ This project is located in a known [STIP](#) and/ or local CIP project # U-4913
- ☒ This project includes a rezoning request.
- ☐ The proposed site access is located within 1,000 feet of an interchange.
- ☐ The Applicant requests for a new or modified control-of-access break.
- ☐ The Applicant requests for a new or modified median break.

Applicant's Signature

Print Name

Date

Effective Date: 10/01/2017 (Version 17-721)

Page 1 of 2



NCDOT Traffic Impact Analysis Need Screening / Scoping Request

TIA Need
Screening



TIA
Scoping



TIA
Submittal



Site Plan/Vicinity Map Requirement for TIA Need Screening: While the site plan may not be finalized during the TIA scoping stage, the graphic representation of the proposed development shall provide adequate details on the development scope and context. More specifically, the site plan/map shall clearly show the location and type of each access point, spacing to adjacent and opposing driveways or intersections, internal street network, proposed buildings/parcels with their anticipated uses and sizes at full build-out and, if applicable, any nearby interstate, US, NC or Secondary Roads (SR).

Project Name: Stevens Mill Road & Idlewild Crossing **Project Reference Number:** _____

☒ **A TIA is Required by the Local Government.** In addition, the study area is expected to include NCDOT maintained transportation facilities.

☒ **A TIA is Required by NCDOT,** per the [Policy on Street and Driveway Access to North Carolina Highways](#).

If either or both of the boxes above are checked, the Applicant/TIA Consultant is hereby requested to fill out as much as possible of the following TIA scoping checklist, and return it along with the supporting documents to NCDOT prior to the scoping meeting.

☐ **A TIA is NOT required.** This decision is based on the development information presented above. Changes in the development plan will require re-evaluation of the TIA need, and may necessitate a TIA. The Applicant should inform the District Engineer of any significant changes in a timely fashion to avoid delays or rejections of the driveway permit / encroachment agreement applications.

Additional Comments:

The TIA need decision is made by the NCDOT Division _____ District _____ on _____.

NCDOT District Representative's Signature
Email concurrence may be used in lieu of the signature.

Print Name



NCDOT TIA Scoping Checklist



Project Name: Stevens Mill Road & Idlewild Crossing

TIA Scoping Date: 2.8.22

☒ **TIA Need Screening Forms are Attached.** Project Reference #: _____ Decision Date: _____

☒ **Site Plan and Access**

☒ Provide a site plan illustrating site access, internal and external roadways, buildings and land uses.

Refer to NCDOT's [Policy on Street and Driveway Access to North Carolina Highways](#) pages 14 and 15 for site plan requirements.

☒ Identify site access.

New Access	On Road	Access Type		Driveway Spacing		
	Road Name	Permitted Movements	Traffic Control	Distance (ft)	Direction	Nearest Intersection / Access
Access A	Idlewild Road	RIRO	2-Way Stop	540	West	Stevens Mill Rd
Access B	Stevens Mill Rd	RIRO	2-Way Stop	440	North	Idlewild Road
Access C	Stevens Mill Rd	Conventional Full-Mvmt	2-Way Stop	640	North	Access B
Access D						
Access E						
Access F						
Access G						
Access H						
Existing Access	Existing Intersection of		Access Modification	Proposed Interconnectivity (If Applicable)		
	Road A	Road B		Connector #	Road Connected	Adjacent Development
Access 1				Connector 1		
Access 2				Connector 2		
Access 3				Connector 3		
Access 4				Connector 4		

☐ Additional access clarifications and provisions (e.g., proposed control-of-access or median breaks, modifications of existing access, loading/unloading area access, bike/pedestrian accommodation).

☐ **Proposed K-12 School Site**

☐ NCDOT [MSTA School Traffic Calculator](#) for Select School Type shall be used.

☐ Peak Hour Factors (PHFs) shall be adjusted/weighted for new school trips (0.5 PHF by default).

☐ Internal school circulation analysis is required, and should be submitted in advance or concurrent with the TIA submittal.

☐ Clarify traffic operation plans (e.g. traffic circulation pattern, pedestrian access, drop-off/pick-up zone location and configuration, queue storage area and, if applicable, staggered start times).



NCDOT TIA Scoping Checklist

TIA Need
Screening



TIA
Scoping



TIA
Submittal



☒ Trip Generation

The TIA Consultant shall prepare trip generation estimates following the current [NCDOT Congestion Management Capacity Analysis Guidelines](#), and submit the calculation sheets and supporting information to the District Engineer for approval prior to capacity analysis.

ITE LUC	Proposed Land Use	Size	Unit	Daily Trips	Peak Hour Type	AM Peak Hour Trips			PM Peak Hour Trips			Data Source
						Enter	Exit	Total	Enter	Exit	Total	
822	Retail	8950	SF	608	Adj. Street	16	11	27	36	36	72	ITE Equation
822	Retail	8150	SF	574	Adj. Street	15	10	25	33	34	67	ITE Equation
822	Retail	8875	SF	604	Adj. Street	16	11	27	36	36	72	ITE Equation
850	Supermarket	48840	SF	4584	Adj. Street	82	58	140	218	219	437	ITE Rate
934	FF w/ Drive-Thru	4500	SF	2104	Adj. Street	102	99	201	77	72	149	ITE Rate
945	C-Store/Gas Station	5000	SF	6418	Adj. Street	228	229	457	197	198	395	ITE Rate
822	Retail	6000	SF	484	Adj. Street	12	9	21	27	27	54	ITE Rate
Unadjusted Site Trips				15376		471	427	898	624	622	1246	
Internal Capture Trips (Attach Calculation Sheets)						-59	-58	-117	-50	-50	-100	NCHRP 684
Internal Capture % of Unadjusted Site Trips				%		13 %			8 %			
LUC	Proposed Land Use	Any Internal Trips?		Pass-By % of External Trips								
822	Retail	Yes - Adjust External Trips		0 %		0 %			34 %			ITE Rate
850	Supermarket	Yes - Adjust External Trips		0 %		0 %			36 %			ITE Rate
934	FF w/ Drive-Thru	Yes - Adjust External Trips		0 %		49 %			50 %			ITE Rate
945	C-Store/Gas Station	Yes - Adjust External Trips		0 %		62 %			56 %			ITE Rate
				%		%			%			
Pass-By Trips (Attach Calculation Sheets)						-167	-167	-334	-252	-252	-504	
Adjacent Street Volumes												Please Select
Non-Pass-By Primary Trips						245	202	447	322	320	642	
Diverted Trips, if Applicable and Justifiable												Please Select

**Explain local or other data sources, if used:

☐ Existing Site Trip Information for Redevelopment Projects (Attach separate sheets as needed)

ITE LUC	Existing Land Use	Size	Unit	Daily Trips	Peak Hour Type	AM Peak Hour Trips			PM Peak Hour Trips			Data Source
						Enter	Exit	Total	Enter	Exit	Total	
					Please Select							Please Select
Total Existing Site Trips												



NCDOT TIA Scoping Checklist



☒ Trip Distribution

- ☒ Trip distribution diagrams are submitted concurrently with this document (attach separate sheets).
- ☐ Trip distribution diagrams will be submitted separately, along with supporting information, to the District Engineer for review and approval prior to capacity analysis. The trip distribution shall be based on the current and anticipated traffic patterns, as well as instructions noted below.

If required by the District Engineer, the following additional diagrams shall also be submitted:

- ☐ Mixed-Use Developments (separate diagrams for residential, commercial, and office trips)
- ☐ Inter-Development Trips (if 'internal' trips cross public streets)
- ☒ Pass-By Trips
- ☐ Diverted Trips
- ☐ Each Analysis Period

☐ Mode Split

- ☐ Provide Data Source and Justification

Mode Period	Auto		
AM Peak	%	%	%
PM Peak	%	%	%
Daily	%	%	%
	%	%	%

- ☐ Identify proper infrastructure and accommodation for other modes of travel.

☒ Analysis Peak Periods:

- ☒ Weekday AM Peak 7:00-9:00 AM
- ☒ Weekday PM Peak 4:00-6:00 PM
- ☐ Weekday Midday Peak _____
- ☐ Weekday PM School Peak _____
- ☐ Weekend _____ Peak _____
- ☐ Other _____



NCDOT TIA Scoping Checklist



☒ Study Area Intersections and Data Collection

The study area shall include the site access intersections (both new and existing) identified under “Site Plan and Access” on page 1, as well as the following external and, if applicable, internal intersections.

External Intersection	Intersection of		Traffic Control	Intersection Turning Movement Counts			Notes
	Road A	Road B		New / Existing	Date of Counts	Growth Adjustment	
#1	Idlewild Road	Stallings Road	2-Way Stop	Require New Counts			
#2	Idlewild Road	I-485 In. Ramps	Signal	Require New Counts			
#3	Idlewild Road	I-485 Out. Ramps	Signal	Require New Counts			
#4	Idlewild Road	Rite Aide Driveway	Signal	Require New Counts			
#5	Idlewild Road	Stevens Mill Rd	Signal	Require New Counts			
#6	Idlewild Road	Marshall Hooks	2-Way Stop	Require New Counts			
#7							
#8							
#9							
#10							
#11							
#12							

Internal Intersection	Intersection of		Access Type		Intersection Spacing		
	Road A	Road B	Traffic Control	Permitted Movements	Distance (ft)	Direction	Nearest Intersection
#101			Please Select	Please Select		Please Select	
#102							
#103							
#104							
#105							

The following data will be collected:

- ☒ New traffic turning movement counts in ☒ 15-min intervals ☐ 5-min intervals (near schools)
 Unless otherwise noted above, new traffic counts shall be collected at the existing study intersections during the analysis periods. Weekday counts shall avoid Mondays, Fridays, holidays, school breaks, road closures, and major weather events.
- ☐ To account for the impact of existing and/or proposed school traffic, PHFs will be adjusted for:
 intersections numbered: _____
 and access points numbered: _____
- ☒ Traffic Forecast Data for TIP: U-4913
- ☒ Roadway/Intersection Configuration & Traffic Control
- ☒ Traffic Signal Phasing & Timing Data
- ☒ Crash Data: Intersection and segment data within the study area Period: 5 years
- ☐ Other: _____



NCDOT TIA Scoping Checklist



☒ Future Year Conditions

☒ Project Build-Out Year: _____ 2025

☒ Future Analysis Year(s): _____ 2040

☒ Identify below any funded/committed future transportation improvements, as well as any approved but incomplete developments near the site.

Funded STIP / Local CIP Project	Project Description		Year Complete
U-4913	Idlewild Road Widening		
Nearby Approved Development	Location	Future Land Use (exclude any completed phases)	Committed Improvements
Idlewild Mixed Use	South of Idlewild Rd, E of 485	Mixed Use	
Stallings Farms	Stevens Mill/Stallings Road	221 SFH	
Stinson Farms	North of Idlewild Rd, E of 485	Mixed Use	

☒ Annual Growth Factor: 1 %

Justification/Data Source: _____

☐ Local Comprehensive Transportation Plan Compliance

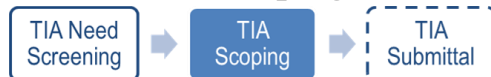
☐ Identify Applicable Local Transportation Planning Documents

☐ Identify Applicable Roadways inside the Study Area

Road Name	Classification	Speed Limit	Proposed Cross-Section	Proposed Right-of-Way	Compliance Requirements	Affect Study Intersection #



NCDOT TIA Scoping Checklist



☒ Study Method

The traffic analysis shall follow the current [NCDOT Congestion Management Capacity Analysis Guidelines](#), [Policy on Street and Driveway Access to North Carolina Highways](#), and use the current approved version of analysis software (e.g. Synchro/SimTraffic, HCS, Sidra Intersection, TransModeler).

The study shall include the following analysis scenarios for each analysis period.

1. Existing Conditions
2. Future No-Build Conditions (existing + background growth + approved developments + committed or funded improvements)
3. Future Build Conditions (future no-build + site trips)
4. Future Build with Improvements Conditions (future build traffic with improvements to mitigate the proposed development's impacts) and, if applicable:
- ☒ 5. TIP Design Year Analysis 2040 analysis with U-4913
- ☐ 6. Alternative Access Scenario (without proposed control-of-access or median break / modification)

The following additional analysis/outputs should be provided as warranted:

- ☐ Signal Warrant Analysis for accesses/intersections _____
- ☒ Multi-Modal Level of Service Analysis
- ☐ School Loading Zone Traffic Simulation
- ☐ Phasing Analysis (scope separately as needed)
- ☒ Safety/Crash Analysis
- ☐ Control-of-Access Modification Justification
- ☐ Median Break / Modification Justification
- ☐ Other _____

☒ Submittals

In addition to the hardcopies required below, the TIA Consultant shall provide the District Engineer and, if required, the local government an electronic copy of the study documents, including the latest site plan, figures and appendices, in searchable PDF files and the original traffic analysis files (e.g., Synchro, HCS). To expedite review, the NCDOT electronic submittals shall also be delivered concurrently to:

☒ Div. Traffic Engr ☐ Regional Traffic Engr ☒ Congestion Management ☐ Other _____

Submittals	NCDOT		Local Government	
	Electronic	Hardcopy	Electronic	Hardcopy
Trip Generation & Distribution	Required		Please Select	
Draft TIA Report	Required			
Final Sealed TIA Report	Required	2		1

☐ **Additional Comments** (municipal TIA requirements, approved variations from NCDOT guidelines)



NCDOT TIA Scoping Checklist



Agreement by All Parties

The undersigned agree to the contents and methodology described above for completing the required traffic impact analysis for the proposed development identified herein. Any changes to the above methodology contemplated by the Applicant or the TIA Consultant must be submitted to the District Engineer in writing. If approved by NCDOT, then such changes may be accepted for the TIA report. Subsequent revisions to the development plan (e.g. land use, density, site access, or schedule) may require additional scoping and analysis, and may modify the TIA requirements.

This agreement shall become effective on the date approved by NCDOT, and shall expire ____ months after the effective date or upon significant changes to the roadway network and/or development assumptions, whichever occurs first. Once expired, renewal or re-scoping will be required for subsequent TIA submittals.

APPLICANT

_____ Signature	_____ Print Name	_____ Date
--------------------	---------------------	---------------

TIA CONSULTANT

_____ Signature	_____ Print Name	_____ Date
--------------------	---------------------	---------------

LOCAL GOVERNMENT REPRESENTATIVE (If Applicable)

_____ Signature	_____ Print Name	_____ Date
--------------------	---------------------	---------------

Email concurrence may be used in lieu of the signature.

NCDOT DISTRICT REPRESENTATIVE

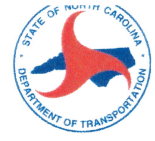
Reviewed and approved by the NCDOT Division ____ District ____ on _____.

_____ Signature	_____ Print Name
--------------------	---------------------

Email concurrence may be used in lieu of the signature.



NCDOT TIA Submittal Checklist



Submittal: Final Sealed TIA Report Document Date: 07-19-2023
Project Name: Idlewild Village Previous Name: If Applicable _____
NCDOT Division: 10 District: 3 County: Union Municipality: Stallings
TIA Consultant: Ramey Kamp & Associates Submitted By: J. Andrew Eagle
Phone Number: 704-549-4260 Email: Aeagle@Rameykemp.Com
TIA Scoping Checklist Approval Date: 05-05-2023 Unadjusted Daily Site Trips: 15,376

- ☒ The approved TIA Scoping Checklist is included in this submittal.
☐ LOS D or better is expected at all study intersections after proposed mitigations.
☒ The study report is sealed by a NC Professional Engineer with expertise in traffic engineering.
☒ This study has identified all known deficiencies with and without the proposed development.
☒ This study has identified mitigation measures to adequately accommodate the site trips.

Explain here if any of the boxes above are unchecked:

Some stop controlled approaches, unsignalized left turn movements, and some signalized approaches are expected to operate at LOS E or LOS F. Improvements were not recommended for some of these due to either minimal impact from the proposed development, or the proposed development is not the main cause of the poor level of service.

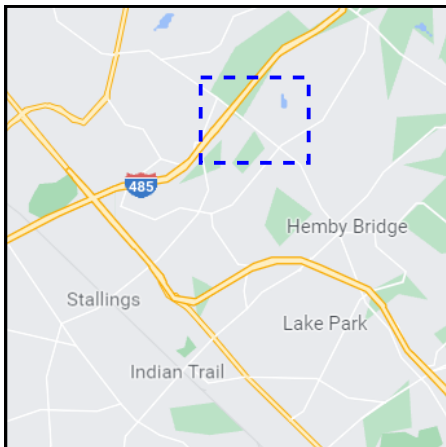
The undersigned affirms that, except for the deviations noted below, the TIA submittal conforms to the current [NCDOT Congestion Management Capacity Analysis Guidelines](#), [Policy on Street and Driveway Access to North Carolina Highways](#), and the TIA Scoping Checklist approved by the NCDOT District Office. The undersigned also acknowledges that the TIA will be rejected if the deviations and justifications are not properly documented and approved by NCDOT.

Deviations and Justifications (e.g., changes in site plan, development schedule, site trip and off-site trip estimates, study area, data collection, analysis period and method. Attached separate sheets if needed.)

J. Andrew Eagle
TIA Consultant's Signature
(Professional Engineer of TIA Record)

J. Andrew Eagle
Print Name

7-19-2023
Date



LEGEND



- Proposed Site Location
- Study Intersection
- Study Area

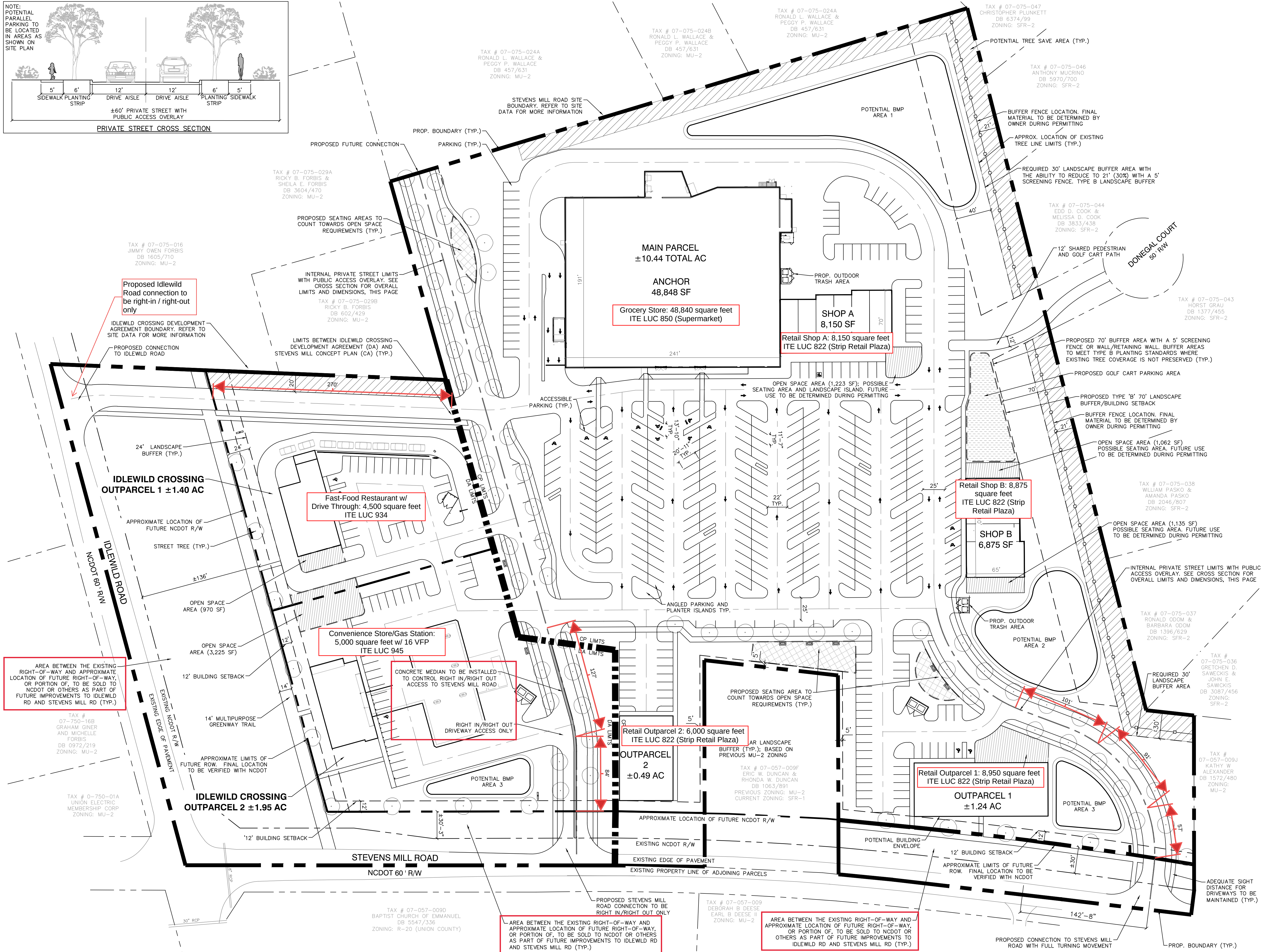
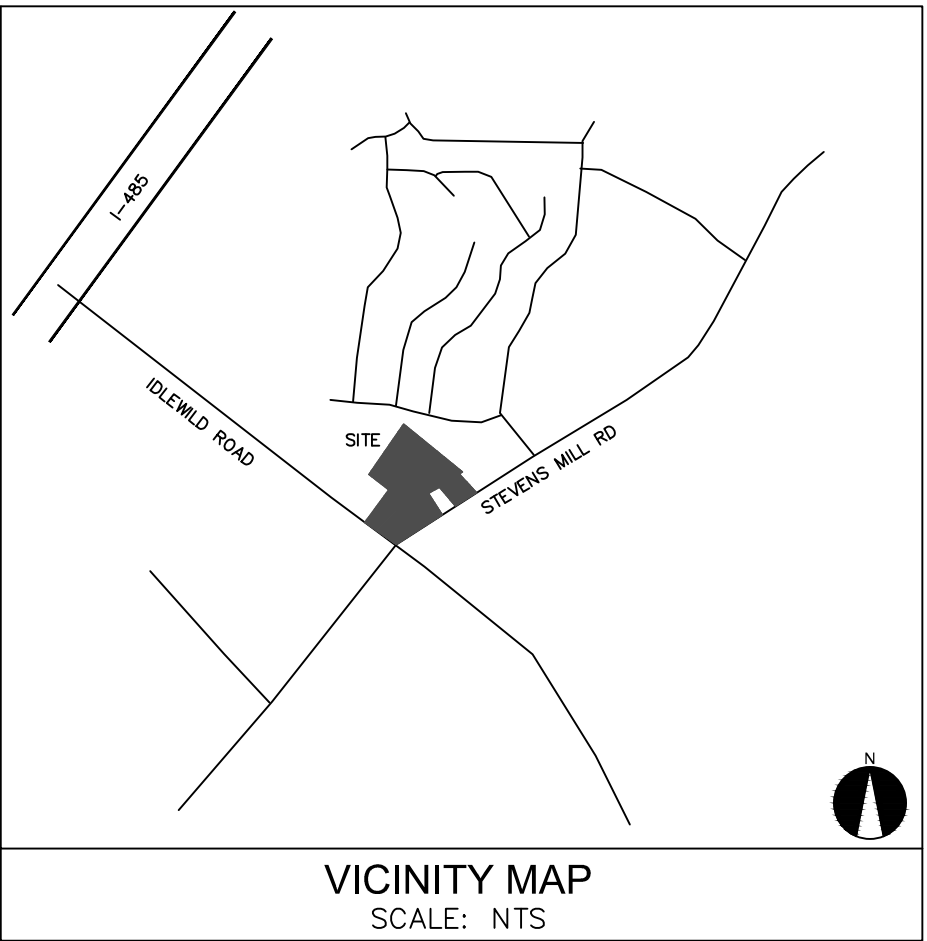
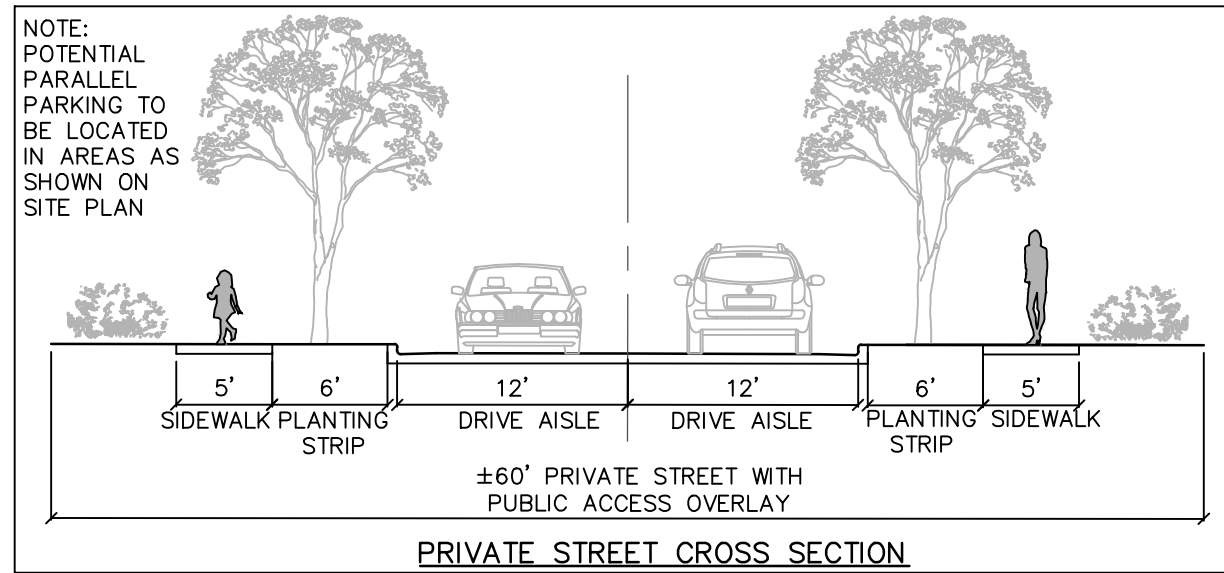
Moving forward.

RKA
RAMEY KEMP ASSOCIATES

Stevens Mill Road
and Idlewild Crossing
Stallings, NC

Site Location Map

Scale: Not to Scale



SEVENS MILL ROAD SITE DATA PER CONCEPT PLAN:	
TAX MAP NO:	07075025, 07057009, 07057009E
ZONING:	MU-2
SITE AREA:	
EXISTING R/W TO FUTURE R/W:	+0.35 AC (15,084 SF)
MAIN PARCEL:	+10.44 AC (454,791 SF)
OUTPARCEL 1:	+1.24 AC (54,122 SF) EXCLUDING FUTURE R/W
OUTPARCEL 2:	+0.49 AC (21,339 SF) EXCLUDING FUTURE R/W
TOTAL:	+12.52 AC (545,336 SF)
EXISTING LAND USE:	
MAIN PARCEL:	VACANT (WOODEN LOT)
OUTPARCEL 1:	EXISTING RESIDENTIAL
OUTPARCEL 2:	EXISTING RESIDENTIAL
SETBACKS:	12' MIN. WHEN NO BUFFER APPLIES (BUILDING TYPE STANDARDS)
BUFFERS:	
REQUIRED ABUTTING MU-2 DISTRICT:	5' VEHICULAR LANDSCAPE BUFFER
REQUIRED ABUTTING SFR-1 DISTRICT:	30' CLASS 'B' LANDSCAPE BUFFER
PROPOSED ABUTTING SFR-2 DISTRICTS:	70' CLASS 'B' LANDSCAPE BUFFER
PARKING REQUIRED FOR MAIN PARCEL:	
	182 SPACES MINIMUM (1 PER 350 SF)
	319 SPACES MAXIMUM (1 PER 200 SF)
PARKING PROVIDED FOR MAIN PARCEL:	294 SPACES (4.67/1,000 SF RATIO)
PARKING PROVIDED FOR OUTPARCEL 1:	39 SPACES
PARKING PROVIDED FOR OUTPARCEL 2:	16 SPACES
REQUIRED BUILDING HEIGHT:	50' MAXIMUM
PROPOSED BUILDING HEIGHTS:	
ANCHOR	+36'
SHOP A:	+36'
SHOP B:	+36'
TREE SAVE REQUIRED:	6.2% MINIMUM = ±0.80 AC
TREE SAVE PROVIDED:	+0.80 AC (35,028 SF) = 6.2%
NOTE: FINAL TREE SAVE LIMITS AND LOCATIONS TO BE ESTABLISHED DURING PERMITTING BASED ON ENGINEERING DESIGN	
OPEN SPACE REQUIRED:	7.5% MINIMUM = ±1.01 AC
OPEN SPACE PROVIDED:	
OPEN SPACE AREAS:	+0.22 AC (9,896 SF)
PEDESTRIAN PATH CONNECTION:	+0.16 AC (6,547 SF)
ENTRY WALKING PATH:	+0.32 AC (13,891 SF)
BMP 2:	+0.31 AC (13,694 SF)
TOTAL:	+1.01 AC (44,028 SF) = 7.5%
NOTE:	
-	OPEN SPACE AREAS SHALL NOT CONTAIN LESS THAN 500 SF.
-	BMPs MAY ONLY COUNT TOWARDS 32% OF THE REQUIRED OPEN SPACE
WATERSHEDS:	
	GOOSE CREEK BASIN AND CROOKED CREEK BASIN
PROPOSED BUA:	
MAIN PARCEL:	+57% (268,466 SF)
OUTPARCEL 1:	+35% (31,286 SF)
OUTPARCEL 2:	+59% (10,493 SF)
NOTE: OUTPARCEL 1 & 2'S BUA PERCENTAGE CALCULATED BASED ON SITE AREA LEFTOVER FROM RIGHT-OF-WAY DEDICATION	
ESTIMATED UTILITY SERVICES CALCULATIONS:	
SEWER SERVICE:	
37,386 GAL/DAY TOTAL -- SEE ESTIMATED SEWER USAGE TABLE THIS SHEET.	
WATER METERS: SEE DOMESTIC & IRRIGATION METERS TABLE ABOVE.	
MAIN PARCEL:	7 WATER METERS
OUTPARCEL 1:	4 WATER METERS
OUTPARCEL 2:	2 WATER METERS
NOTE: BACKFLOW PREVENTERS MUST BE LOCATED IN EITHER AN APPROVED UNDERGROUND VAULT AT THE FRONT OF THE DEVELOPMENT SITE OR PLACED ON THE SIDE OR REAR OF THE SITE AND ADEQUATELY SCREENED. FINAL LOCATION TO BE DETERMINED DURING PERMITTING.	

<u>DEWILD CROSSING SITE DATA PER DEVELOPMENT AGREEMENT PLAN:</u>	
TAX MAP NO:	07057009A, 07075016A, & 070750161
ZONING:	MU-2
SITE AREA:	
EXISTING R/W TO FUTURE R/W	+1.85 AC (80,786 SF) DEED RD CENTERLINE TO FUTURE R/W
OUTPARCEL 1:	+1.40 AC (61,224 SF) EXCLUDING FUTURE R/W
OUTPARCEL 2:	+1.95 AC (84,789 SF) EXCLUDING FUTURE R/W
TOTAL:	+5.20 (226,794 SF)
EXISTING LAND USE:	
MAIN PARCEL:	VACANT (WOODEN LOT)
TREE SAVE REQUIRED:	3% OF LOT AREA
SETBACKS:	
FRONT:	12' MIN. WHEN NO BUFFER APPLIES (BUILDING TYPE STANDARDS)
PARKING:	
	PER ORDINANCE REQUIREMENTS
ROAD WIDENING NEEDED:	
	YES
ADEQUATE SITE DISTANCE FOR PROPOSED DRIVEWAY:	
	YES

NOTE: POTENTIAL LAND USES AND CONCEPT DESIGN SHOWN ON IDLEWILD CROSSING PARCELS ARE FOR REFERENCE ONLY. FINAL LAND USES AND PLANS TO BE DETERMINED BY OWNER IN ACCORDANCE WITH DEVELOPER AGREEMENT PLANS.

STEVENS MILL ROAD & IDLEWILD CROSSING

Table 1: Site Trip Generation (11th Edition)

TOTAL TRIPS

Code	Land Use	Size	Unit	Daily			AM Peak			PM Peak		
				In	Out	Total	In	Out	Total	In	Out	Total
822	Retail - Outparcel 1	8,950	SF	304	304	608	16	11	27	36	36	72
822	Retail - Outparcel 2	6,000	SF	242	242	484	12	9	21	27	27	54
822	Retail - Shop A	8,150	SF	287	287	574	15	10	25	33	34	67
822	Retail - Shop B	8,875	SF	302	302	604	16	11	27	36	36	72
850	Supermarket	48,840	SF	2,292	2,292	4,584	82	58	140	218	219	437
934	Fast-Food Restaurant with Drive-Thru Window	4,500	SF	1,052	1,052	2,104	102	99	201	77	72	149
945	Convenience Store/Gas Station	5,000	SF	3,209	3,209	6,418	228	229	457	197	198	395
Total Trips				7,688	7,688	15,376	471	427	898	624	622	1,246
Total Internal Capture Trips (13% AM, 8% PM)							-59	-58	-117	-50	-50	-100
External Trips [After Internal Capture Adjustments]							412	369	781	574	572	1,146
<i>Pass-by Trips: Retail - Outparcel 1 (AM: 0%, PM: 34%)</i>							0	0	0	-11	-11	-22
<i>Pass-by Trips: Retail - Outparcel 2 (AM: 0%, PM: 34%)</i>							0	0	0	-9	-9	-18
<i>Pass-by Trips: Retail - Shop A (AM: 0%, PM: 34%)</i>							0	0	0	-11	-11	-22
<i>Pass-by Trips: Retail - Shop B (AM: 0%, PM: 34%)</i>							0	0	0	-11	-11	-22
<i>Pass-by Trips: Supermarket (AM: 0%, PM: 36%)</i>							0	0	0	-73	-73	-146
<i>Pass-by Trips: Fast-Food with Drive-Thru Window (AM: 49%, PM: 50%)</i>							-43	-43	-86	-35	-35	-70
<i>Pass-by Trips: Convenience Store/Gas Station (AM: 62%, PM: 56%)</i>							-124	-124	-248	-102	-102	-204
Total Pass-by Trips							-167	-167	-334	-252	-252	-504
Total Primary Trips							245	202	447	322	320	642

NCHRP 684 Internal Trip Capture Estimation Tool					
Project Name:	Stevens Mill and Idlewild Crossing	Organization:	RKA		
Project Location:	Stallings, NC	Performed By:	AWP		
Scenario Description:	Full Build-Out	Date:	2/8/2022		
Analysis Year:	2025	Checked By:	MPK		
Analysis Period:	AM Street Peak Hour	Date:	2/8/2022		

Table 1-A: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)						
Land Use	Development Data (For Information Only)			Estimated Vehicle-Trips ³		
	ITE LUCs ¹	Quantity	Units	Total	Entering	Exiting
Office						
Retail	822/850/945	85,815	SF	697	369	328
Restaurant	934	4,500	SF	201	102	99
Cinema/Entertainment						
Residential						
Hotel						
All Other Land Uses ²						
				898	471	427

Table 2-A: Mode Split and Vehicle Occupancy Estimates						
Land Use	Entering Trips			Exiting Trips		
	Veh. Occ. ⁴	% Transit	% Non-Motorized	Veh. Occ. ⁴	% Transit	% Non-Motorized
Office	1.10	0%	0%	1.10	0%	0%
Retail	1.10	0%	0%	1.10	0%	0%
Restaurant	1.10	0%	0%	1.10	0%	0%
Cinema/Entertainment	1.10	0%	0%	1.10	0%	0%
Residential	1.10	0%	0%	1.10	0%	0%
Hotel	1.10	0%	0%	1.10	0%	0%
All Other Land Uses ²	1.10	0%	0%	1.10	0%	0%

Table 3-A: Average Land Use Interchange Distances (Feet Walking Distance)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-A: Internal Person-Trip Origin-Destination Matrix*						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		47	0	0	0
Restaurant	0	15		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	0	0	0		0
Hotel	0	0	0	0	0	

Table 5-A: Computations Summary			
	Total	Entering	Exiting
All Person-Trips	988	518	470
Internal Capture Percentage	13%	12%	13%
External Vehicle-Trips ⁵	784	414	370
External Transit-Trips ⁶	0	0	0
External Non-Motorized Trips ⁶	0	0	0

Table 6-A: Internal Trip Capture Percentages by Land Use		
Land Use	Entering Trips	Exiting Trips
Office	N/A	N/A
Retail	4%	13%
Restaurant	42%	14%
Cinema/Entertainment	N/A	N/A
Residential	N/A	N/A
Hotel	N/A	N/A

¹Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.

²Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

³Enter trips assuming no transit or non-motorized trips (as assumed in ITE *Trip Generation Manual*).

⁴Enter vehicle occupancy assumed in Table 1-A vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be made to Tables 5-A, 9-A (O and D). Enter transit, non-motorized percentages that will result with proposed mixed-use project complete.

⁵Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A.

⁶Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

NCHRP 684 Internal Trip Capture Estimation Tool					
Project Name:	Stevens Mill and Idlewild Crossing	Organization:	RKA		
Project Location:	Stallings, NC	Performed By:	AWP		
Scenario Description:	Full Build-Out	Date:	2/8/2022		
Analysis Year:	2025	Checked By:	MPK		
Analysis Period:	PM Street Peak Hour	Date:	2/8/2022		

Table 1-P: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)						
Land Use	Development Data (For Information Only)			Estimated Vehicle-Trips ³		
	ITE LUCs ¹	Quantity	Units	Total	Entering	Exiting
Office						
Retail	822/850/945	85,815	SF	1,097	547	550
Restaurant	934	4,500	SF	149	77	72
Cinema/Entertainment						
Residential						
Hotel						
All Other Land Uses ²						
				1,246	624	622

Table 2-P: Mode Split and Vehicle Occupancy Estimates						
Land Use	Entering Trips			Exiting Trips		
	Veh. Occ. ⁴	% Transit	% Non-Motorized	Veh. Occ. ⁴	% Transit	% Non-Motorized
Office	1.10	0%	0%	1.10	0%	0%
Retail	1.10	0%	0%	1.10	0%	0%
Restaurant	1.10	0%	0%	1.10	0%	0%
Cinema/Entertainment	1.10	0%	0%	1.10	0%	0%
Residential	1.10	0%	0%	1.10	0%	0%
Hotel	1.10	0%	0%	1.10	0%	0%
All Other Land Uses ²	1.10	0%	0%	1.10	0%	0%

Table 3-P: Average Land Use Interchange Distances (Feet Walking Distance)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		4000	4000		4000	
Retail					4000	
Restaurant					4000	
Cinema/Entertainment					4000	
Residential		4000	4000			
Hotel					4000	

Table 4-P: Internal Person-Trip Origin-Destination Matrix*						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		25	0	0	0
Restaurant	0	32		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	0	0	0		0
Hotel	0	0	0	0	0	

Table 5-P: Computations Summary			
	Total	Entering	Exiting
All Person-Trips	1,371	687	684
Internal Capture Percentage	8%	8%	8%
External Vehicle-Trips ⁵	1,143	573	570
External Transit-Trips ⁵	0	0	0
External Non-Motorized Trips ⁶	0	0	0

Table 6-P: Internal Trip Capture Percentages by Land Use		
Land Use	Entering Trips	Exiting Trips
Office	N/A	N/A
Retail	5%	4%
Restaurant	29%	41%
Cinema/Entertainment	N/A	N/A
Residential	N/A	N/A
Hotel	N/A	N/A

¹Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.

²Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

³Enter trips assuming no transit or non-motorized trips (as assumed in ITE *Trip Generation Manual*).

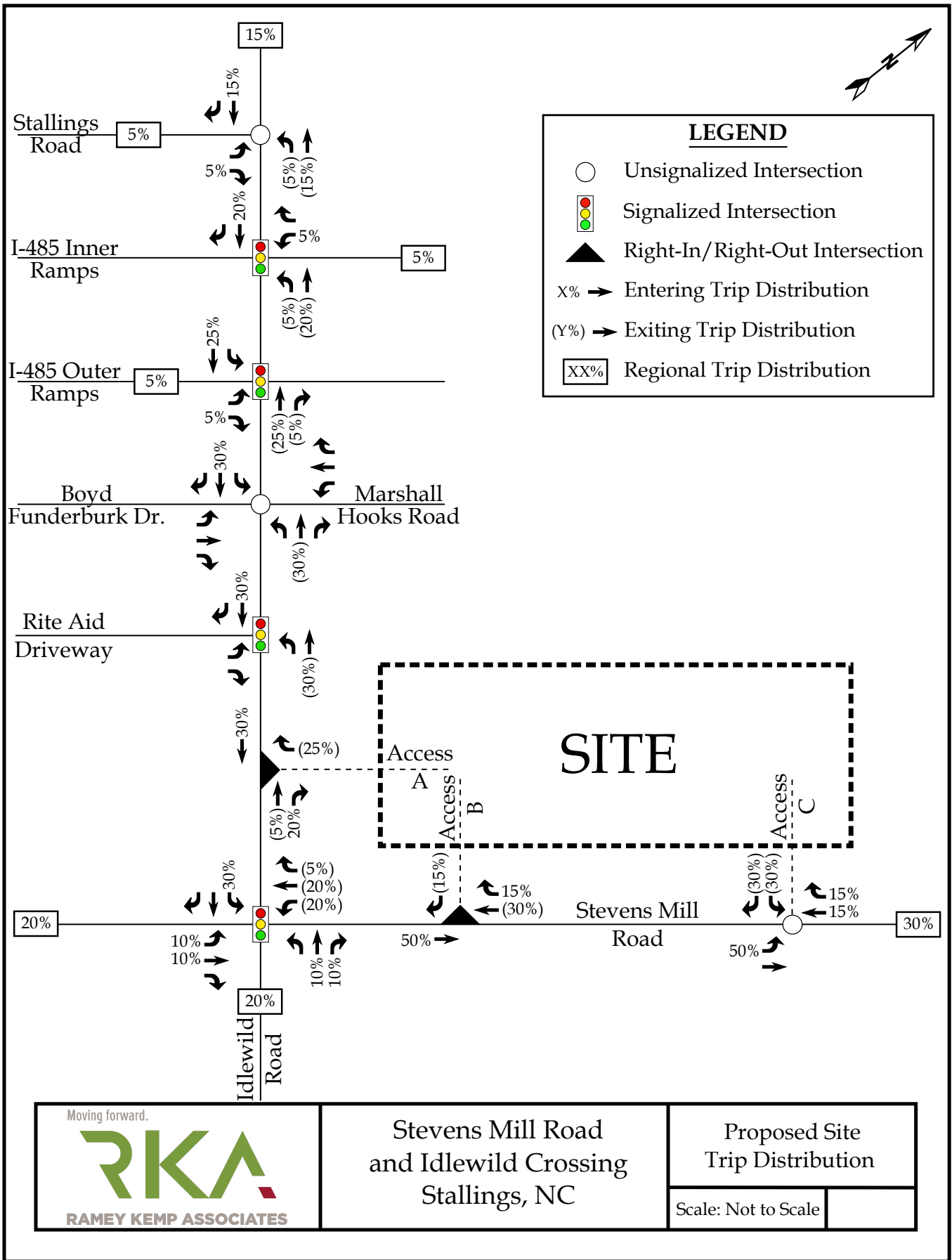
⁴Enter vehicle occupancy assumed in Table 1-P vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be made.

⁵Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P.

⁶Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas A&M Transportation Institute - Version 2013.1



Moving forward.



Stevens Mill Road and Idlewild Crossing Stallings, NC

Proposed Site
Trip Distribution

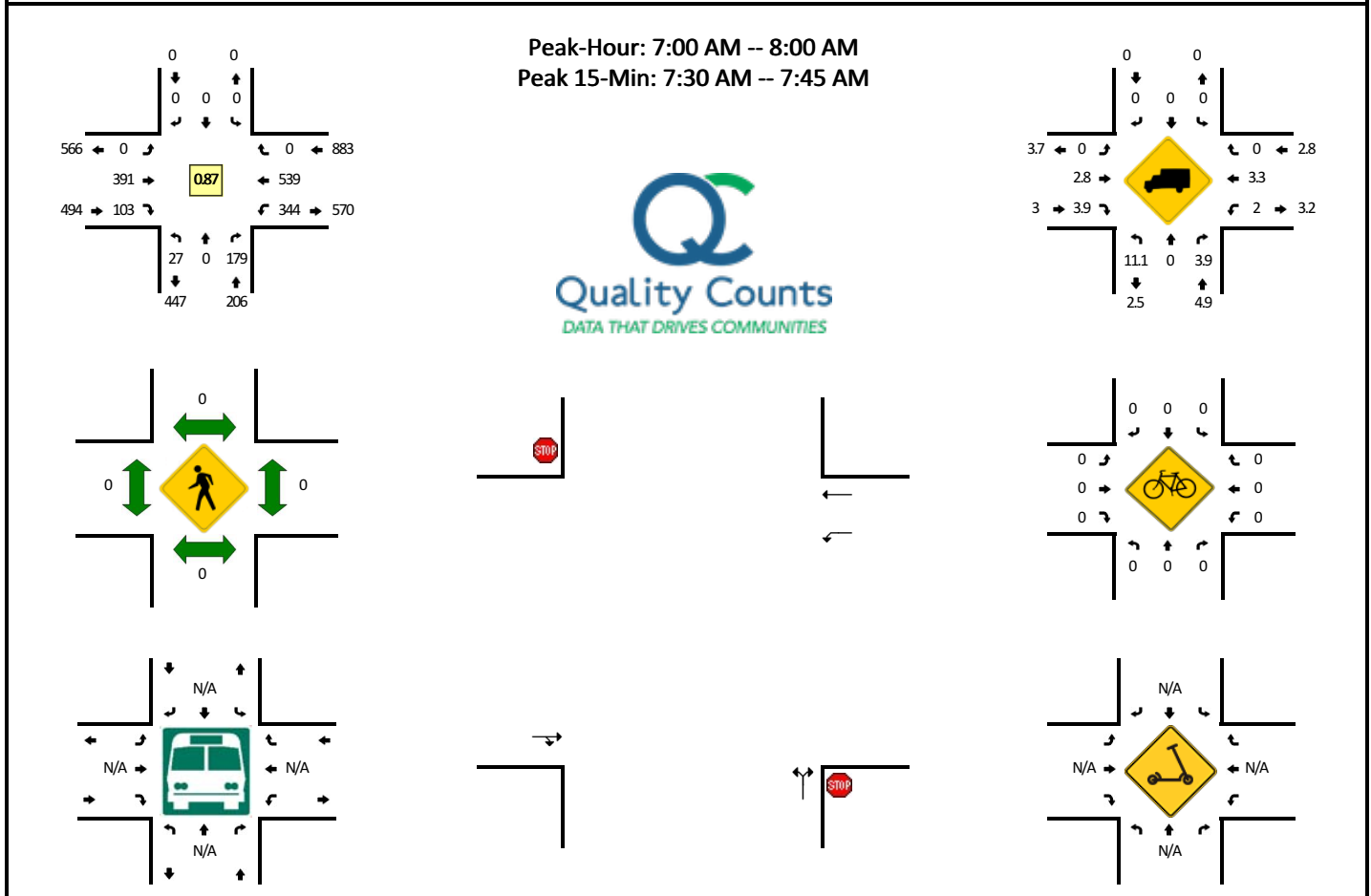
Scale: Not to Scale

APPENDIX B

Traffic Counts

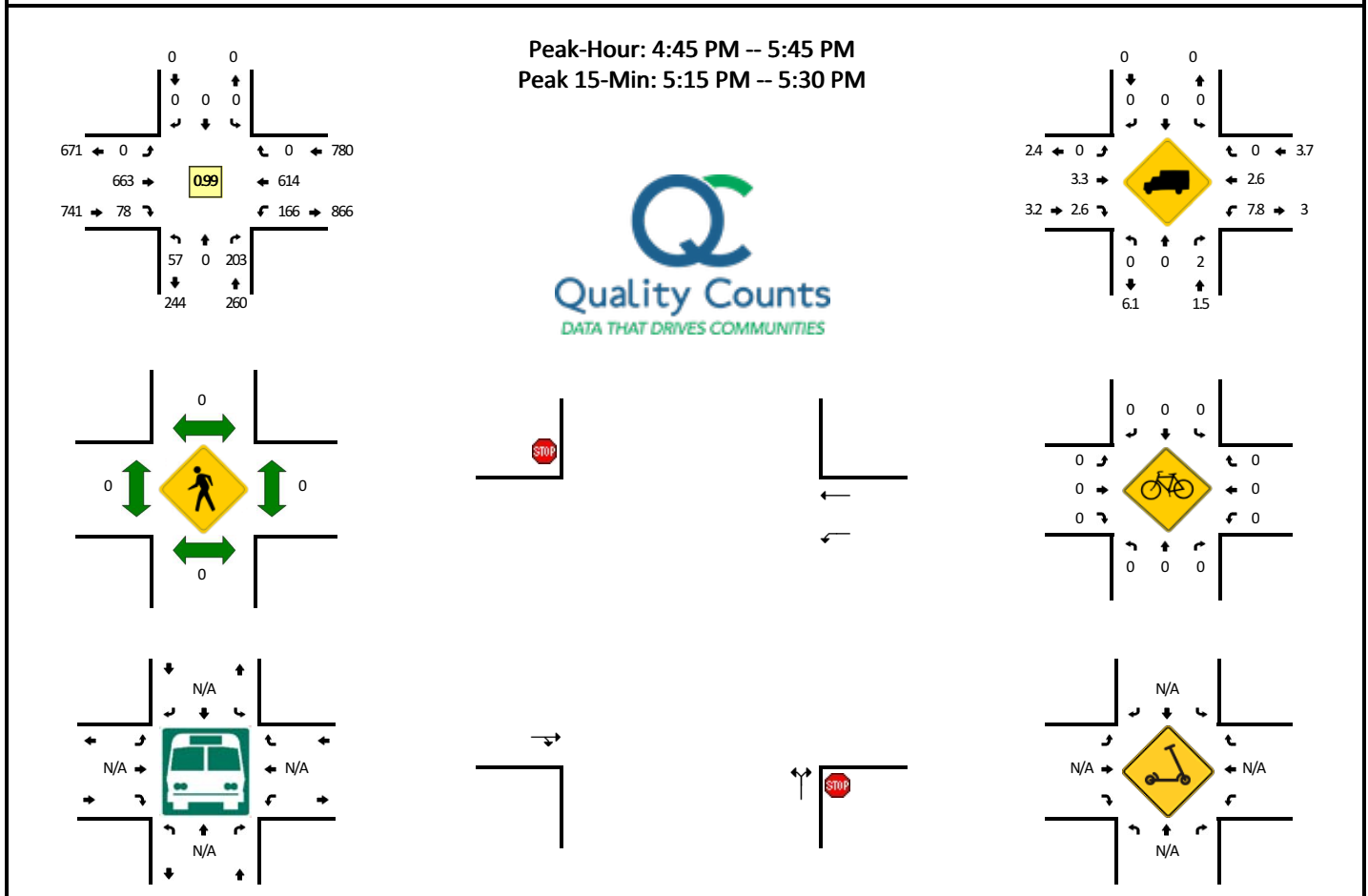
LOCATION: Stallings Rd -- Idlewild Rd
CITY/STATE: Matthews, NC

QC JOB #: 15681801
DATE: Thu, Jan 13 2022



15-Min Count Period Beginning At	Stallings Rd (Northbound)				Stallings Rd (Southbound)				Idlewild Rd (Eastbound)				Idlewild Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	2	0	28	0	0	0	0	0	0	104	17	0	94	98	0	0	343	
7:15 AM	10	0	37	0	0	0	0	0	0	88	25	0	100	130	0	0	390	
7:30 AM	1	0	72	0	0	0	0	0	0	89	29	0	90	174	0	0	455	
7:45 AM	14	0	42	0	0	0	0	0	0	110	32	0	60	137	0	0	395	1583
8:00 AM	11	0	29	0	0	0	0	0	0	100	21	0	38	116	0	0	315	1555
8:15 AM	10	0	24	0	0	0	0	0	0	81	15	0	40	131	0	0	301	1466
8:30 AM	12	0	23	0	0	0	0	0	0	88	15	0	25	118	0	0	281	1292
8:45 AM	10	0	21	0	0	0	0	0	0	88	14	0	36	106	0	0	275	1172
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	4	0	288	0	0	0	0	0	0	356	116	0	360	696	0	0	1820	
Heavy Trucks	0	0	12	0	0	0	0	0	0	8	4	0	20	20	0	0	64	
Buses																		
Pedestrians		0				0				0				0			0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scoters																		

Comments:

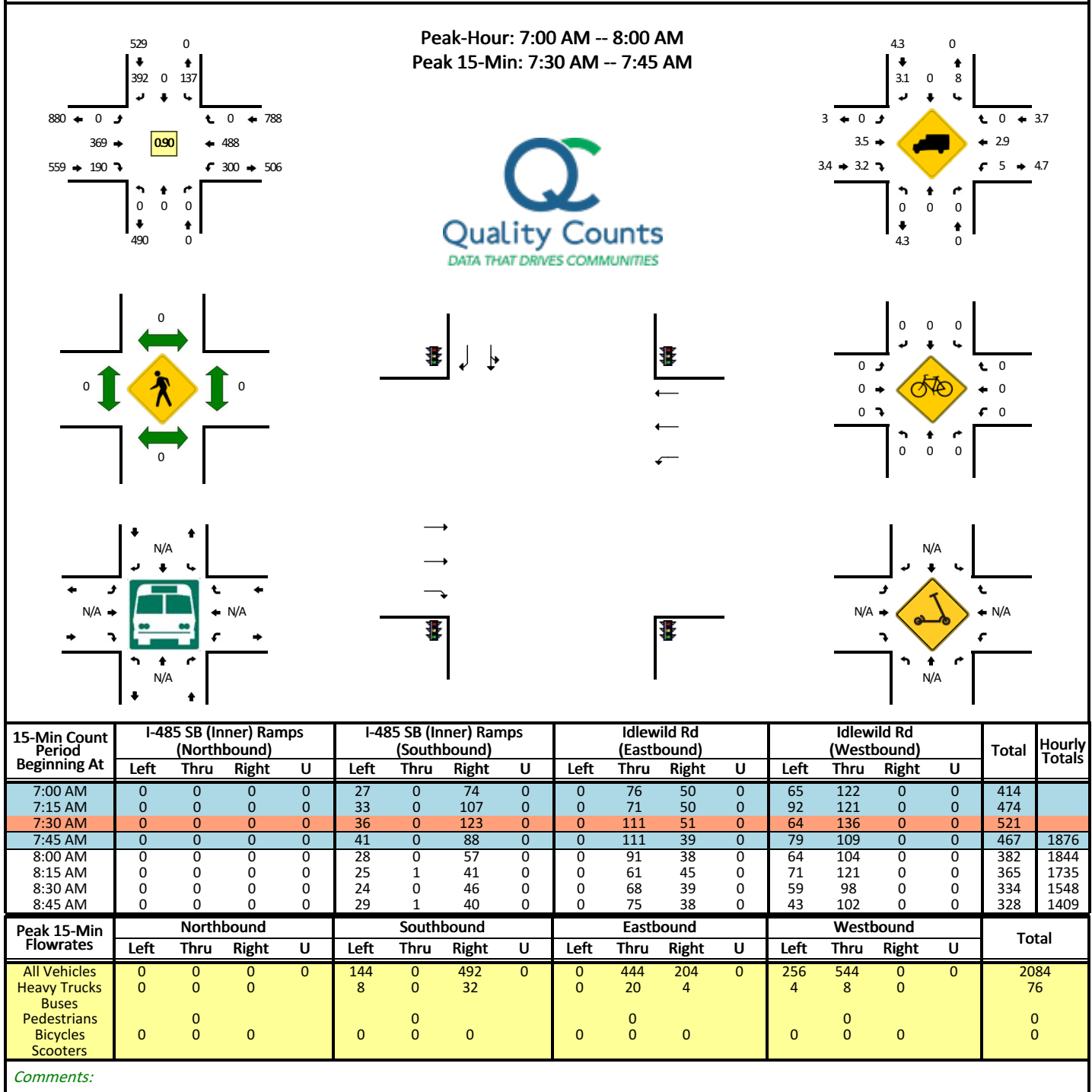
LOCATION: Stallings Rd -- Idlewild Rd**QC JOB #:** 15681802**CITY/STATE:** Matthews, NC**DATE:** Thu, Jan 13 2022

15-Min Count Period Beginning At	Stallings Rd (Northbound)				Stallings Rd (Southbound)				Idlewild Rd (Eastbound)				Idlewild Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	13	0	39	0	0	0	0	0	0	139	21	0	42	127	0	0	381	
4:15 PM	14	0	38	0	0	0	0	0	0	136	14	0	38	139	0	0	379	
4:30 PM	15	0	45	0	0	0	0	0	0	134	20	0	34	129	0	0	377	
4:45 PM	10	0	47	0	0	0	0	0	0	184	18	0	40	148	0	0	447	1584
5:00 PM	21	0	61	0	0	0	0	0	0	158	22	0	38	139	0	0	439	1642
5:15 PM	15	0	53	0	0	0	0	0	0	171	21	0	42	146	0	0	448	1711
5:30 PM	11	0	42	0	0	0	0	0	0	150	17	0	46	181	0	0	447	1781
5:45 PM	14	0	30	0	0	0	0	0	0	154	19	0	40	131	0	0	388	1722
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	60	0	212	0	0	0	0	0	0	684	84	0	168	584	0	0	1792	
Heavy Trucks	0	0	4	0	0	0	0	0	0	12	0	0	8	12	0	0	36	
Buses																		
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	
Scoters																		

Comments:

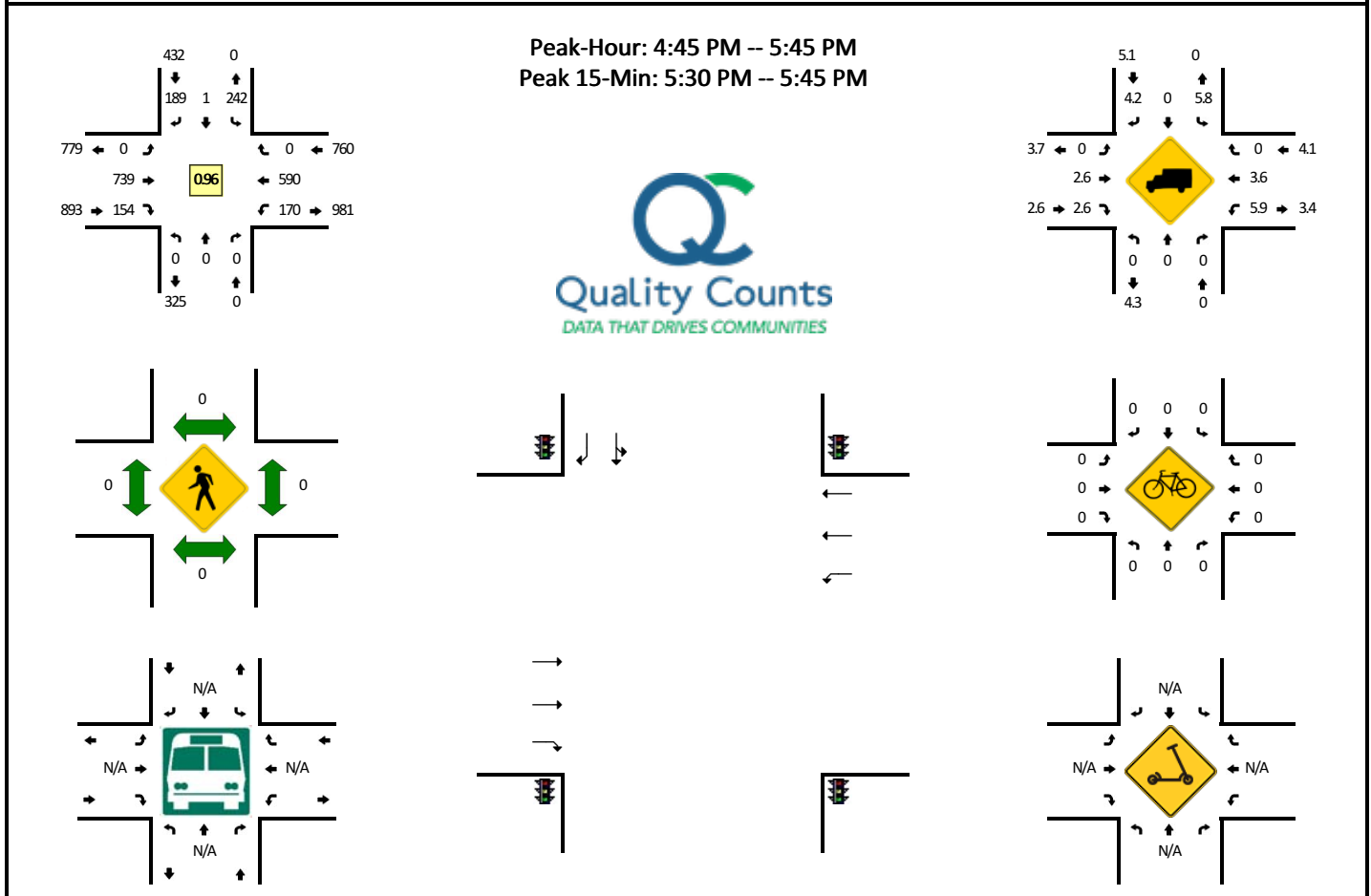
LOCATION: I-485 SB (Inner) Ramps -- Idlewild Rd
CITY/STATE: Matthews, NC

QC JOB #: 15681803
DATE: Thu, Jan 13 2022



LOCATION: I-485 SB (Inner) Ramps -- Idlewild Rd
CITY/STATE: Matthews, NC

QC JOB #: 15681804
DATE: Thu, Jan 13 2022

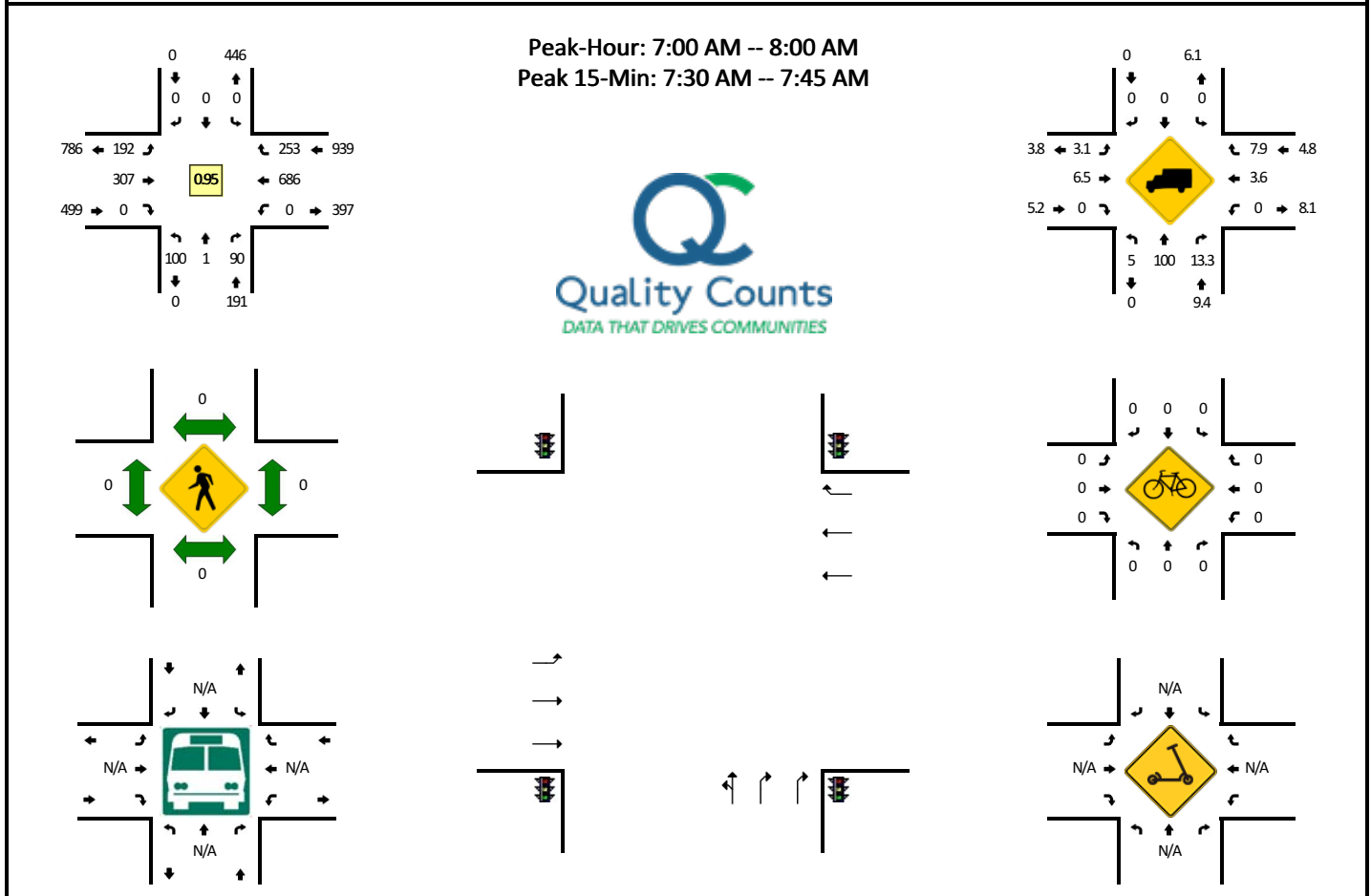


15-Min Count Period Beginning At	I-485 SB (Inner) Ramps (Northbound)				I-485 SB (Inner) Ramps (Southbound)				Idlewild Rd (Eastbound)				Idlewild Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	0	0	50	0	53	0	0	143	37	0	40	114	0	0	437	
4:15 PM	0	0	0	0	39	0	40	0	0	147	27	0	36	140	0	0	429	
4:30 PM	0	0	0	0	61	0	51	0	0	146	31	0	46	113	0	0	448	
4:45 PM	0	0	0	0	60	1	43	0	0	192	40	0	37	144	0	0	517	1831
5:00 PM	0	0	0	0	64	0	38	0	0	191	29	0	43	137	0	0	502	1896
5:15 PM	0	0	0	0	54	0	48	0	0	186	50	0	44	140	0	0	522	1989
5:30 PM	0	0	0	0	64	0	60	0	0	170	35	0	46	169	0	0	544	2085
5:45 PM	0	0	0	0	52	1	41	0	0	139	35	0	41	125	0	0	434	2002
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	0	0	0	256	0	240	0	0	680	140	0	184	676	0	0	2176	
Heavy Trucks	0	0	0	0	12	0	8	0	0	12	0	0	8	12	0	0	52	
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
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	
Scooters	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Comments:

LOCATION: I-485 NB (Outer) Ramps -- Idlewild Rd
CITY/STATE: Matthews, NC

QC JOB #: 15681805
DATE: Thu, Jan 13 2022

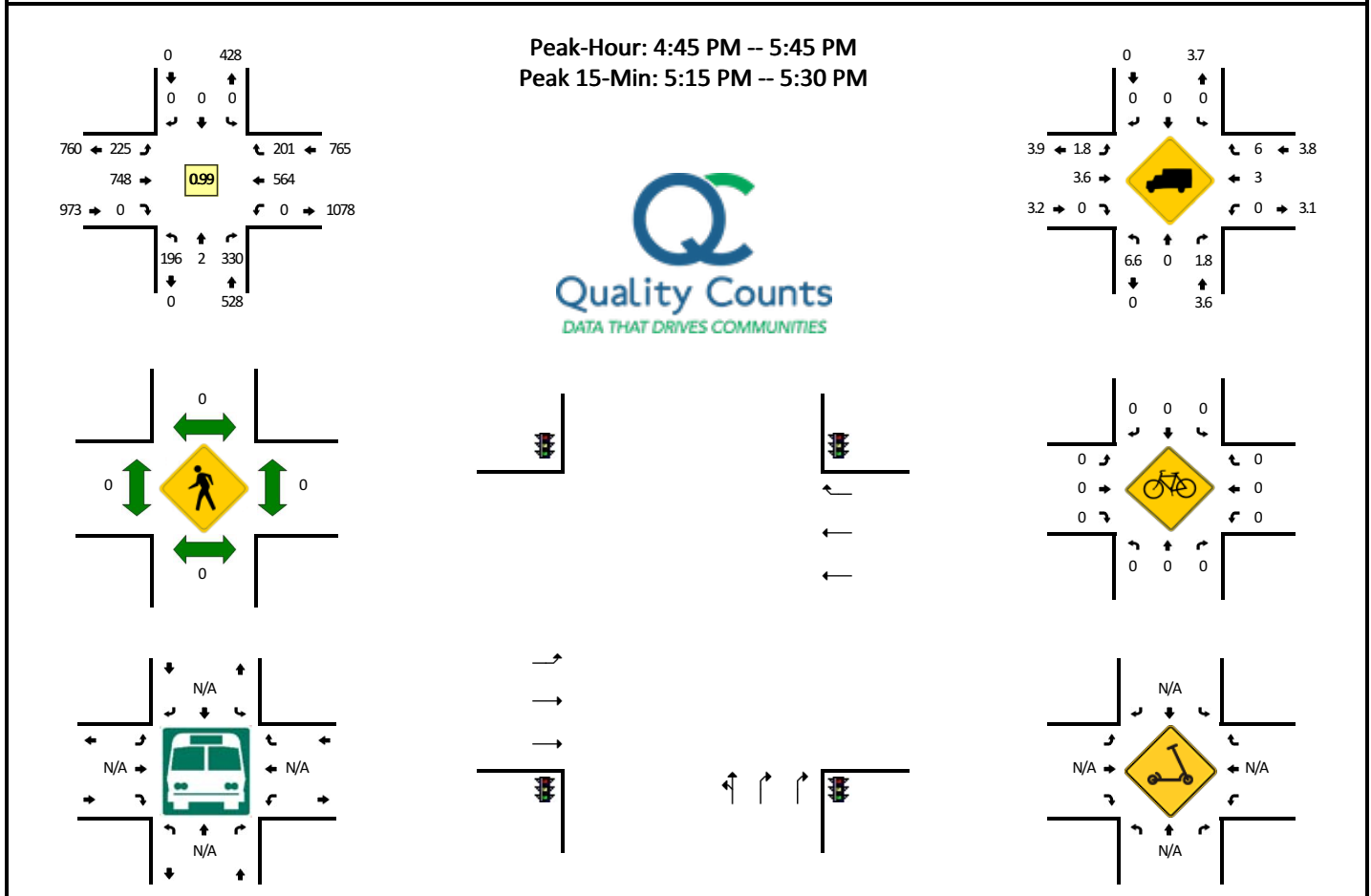


15-Min Count Period Beginning At	I-485 NB (Outer) Ramps (Northbound)				I-485 NB (Outer) Ramps (Southbound)				Idlewild Rd (Eastbound)				Idlewild Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	23	1	23	0	0	0	0	0	29	70	0	0	0	166	56	0	368	
7:15 AM	26	0	22	0	0	0	0	0	37	69	0	0	0	185	70	0	409	
7:30 AM	33	0	19	0	0	0	0	0	62	82	0	0	0	167	67	0	430	
7:45 AM	18	0	26	0	0	0	0	0	64	86	0	0	0	168	60	0	422	1629
8:00 AM	20	0	18	0	0	0	0	0	38	86	0	0	0	145	48	0	355	1616
8:15 AM	25	0	35	0	0	0	0	0	23	64	0	0	0	165	44	0	356	1563
8:30 AM	16	0	29	0	0	0	0	0	22	67	0	0	0	144	45	0	323	1456
8:45 AM	22	1	17	0	0	0	0	0	29	73	0	0	0	123	47	0	312	1346
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	132	0	76	0	0	0	0	0	248	328	0	0	0	668	268	0	1720	
Heavy Trucks	0	0	12	0	0	0	0	0	12	20	0	0	0	20	12	0	76	
Buses																		
Pedestrians		0				0				0				0			0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scoters																		

Comments:

LOCATION: I-485 NB (Outer) Ramps -- Idlewild Rd
CITY/STATE: Matthews, NC

QC JOB #: 15681806
DATE: Thu, Jan 13 2022

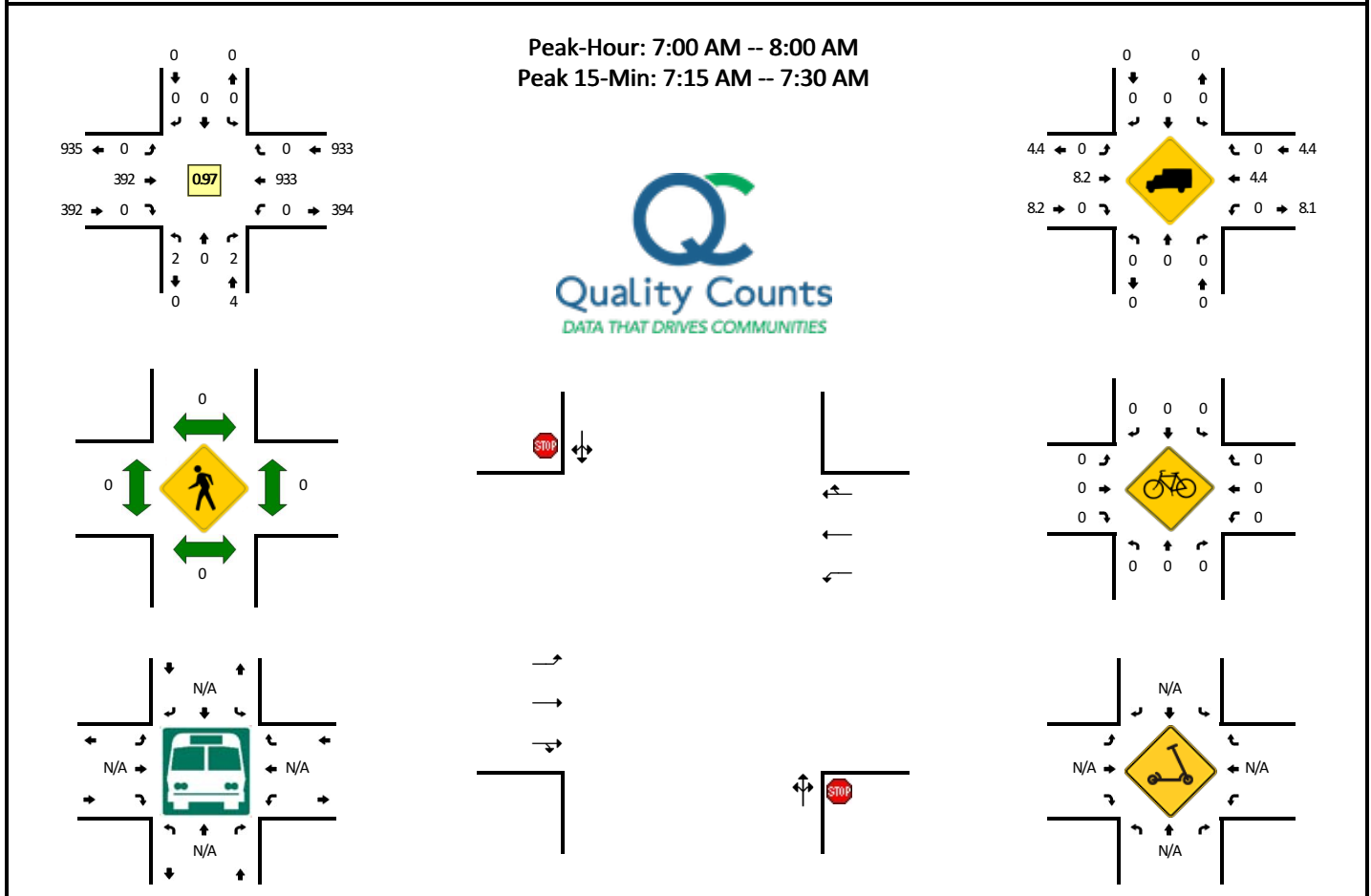


15-Min Count Period Beginning At	I-485 NB (Outer) Ramps (Northbound)				I-485 NB (Outer) Ramps (Southbound)				Idlewild Rd (Eastbound)				Idlewild Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	37	0	77	0	0	0	0	0	40	153	0	0	0	120	46	0	473	
4:15 PM	57	0	85	0	0	0	0	0	43	145	0	1	0	121	50	0	502	
4:30 PM	38	0	61	0	0	0	0	0	43	162	0	0	0	119	42	0	465	
4:45 PM	45	0	82	0	0	0	0	0	50	200	0	0	0	138	45	0	560	2000
5:00 PM	56	0	78	0	0	0	0	0	66	188	0	0	0	124	57	0	569	2096
5:15 PM	41	1	82	0	0	0	0	0	68	175	0	0	0	144	60	0	571	2165
5:30 PM	54	1	88	0	0	0	0	0	41	185	0	0	0	158	39	0	566	2266
5:45 PM	41	1	77	0	0	0	0	0	41	156	0	0	0	123	43	0	482	2188
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	164	4	328	0	0	0	0	0	272	700	0	0	0	576	240	0	2284	
Heavy Trucks	8	0	8	0	0	0	0	0	4	16	0	0	0	12	8	0	56	
Buses																		
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	
Scooters																		

Comments:

LOCATION: Boyd Funderburk Dr -- Idlewild Rd
CITY/STATE: Stallings, NC

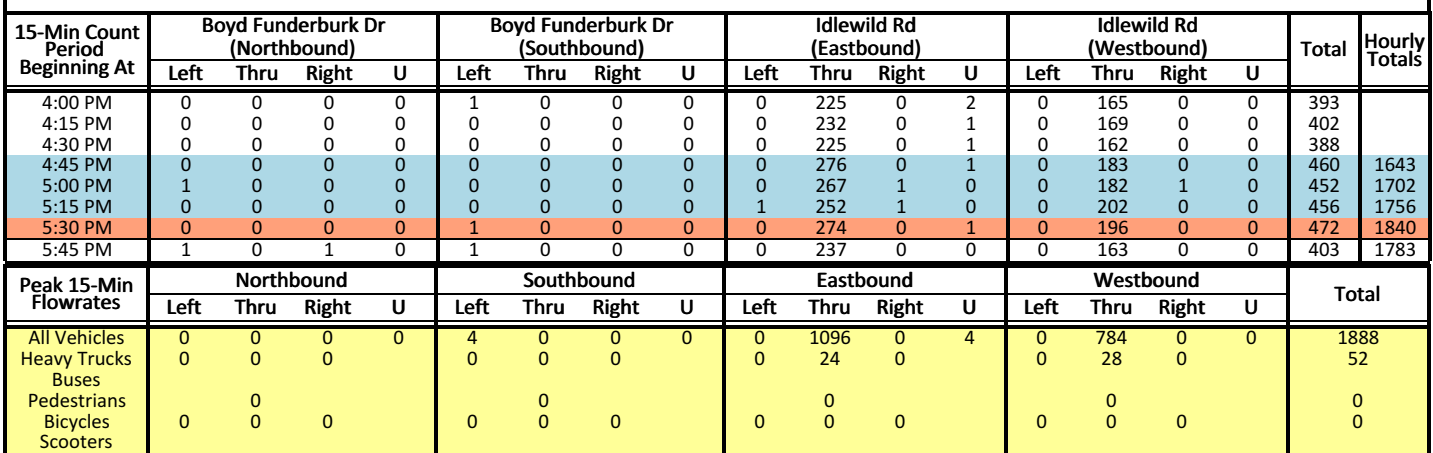
QC JOB #: 15681807
DATE: Thu, Jan 13 2022



15-Min Count Period Beginning At	Boyd Funderburk Dr (Northbound)				Boyd Funderburk Dr (Southbound)				Idlewild Rd (Eastbound)				Idlewild Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	1	0	1	0	0	0	0	0	0	94	0	0	0	218	0	0	314	
7:15 AM	0	0	0	0	0	0	0	0	0	89	0	0	0	254	0	0	343	
7:30 AM	0	0	0	0	0	0	0	0	0	104	0	0	0	233	0	0	337	
7:45 AM	1	0	1	0	0	0	0	0	0	105	0	0	0	228	0	0	335	1329
8:00 AM	0	0	0	0	0	0	0	0	0	103	0	0	0	195	1	0	299	1314
8:15 AM	0	0	0	0	0	0	1	0	0	100	0	1	0	210	0	0	312	1283
8:30 AM	0	0	0	0	0	0	0	0	0	103	0	0	0	184	0	0	287	1233
8:45 AM	0	0	0	0	0	0	0	0	0	86	0	0	0	170	0	0	256	1154
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	0	0	0	0	0	0	0	0	356	0	0	0	1016	0	0	1372	
Heavy Trucks	0	0	0	0	0	0	0	0	0	24	0	0	0	44	0	0	68	
Buses																		
Pedestrians		0				0				0				0			0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scoters																		

Comments:

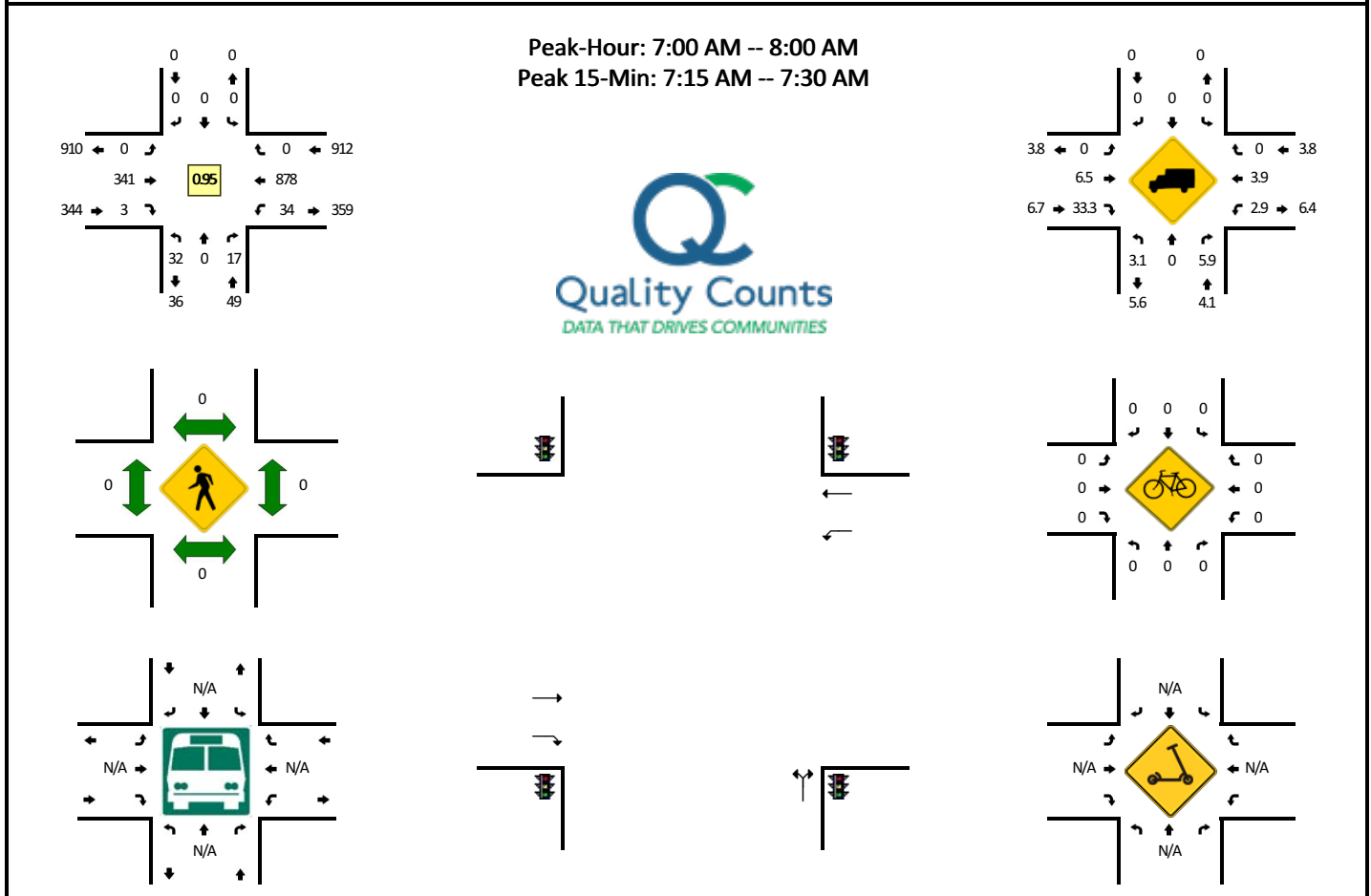
QC JOB #: 15681808
DATE: Thu, Jan 13 2022



SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>) 1-877-580-2212

LOCATION: Rite Aid Dwy -- Idlewild Rd
CITY/STATE: Stallings, NC

QC JOB #: 15681809
DATE: Thu, Jan 13 2022

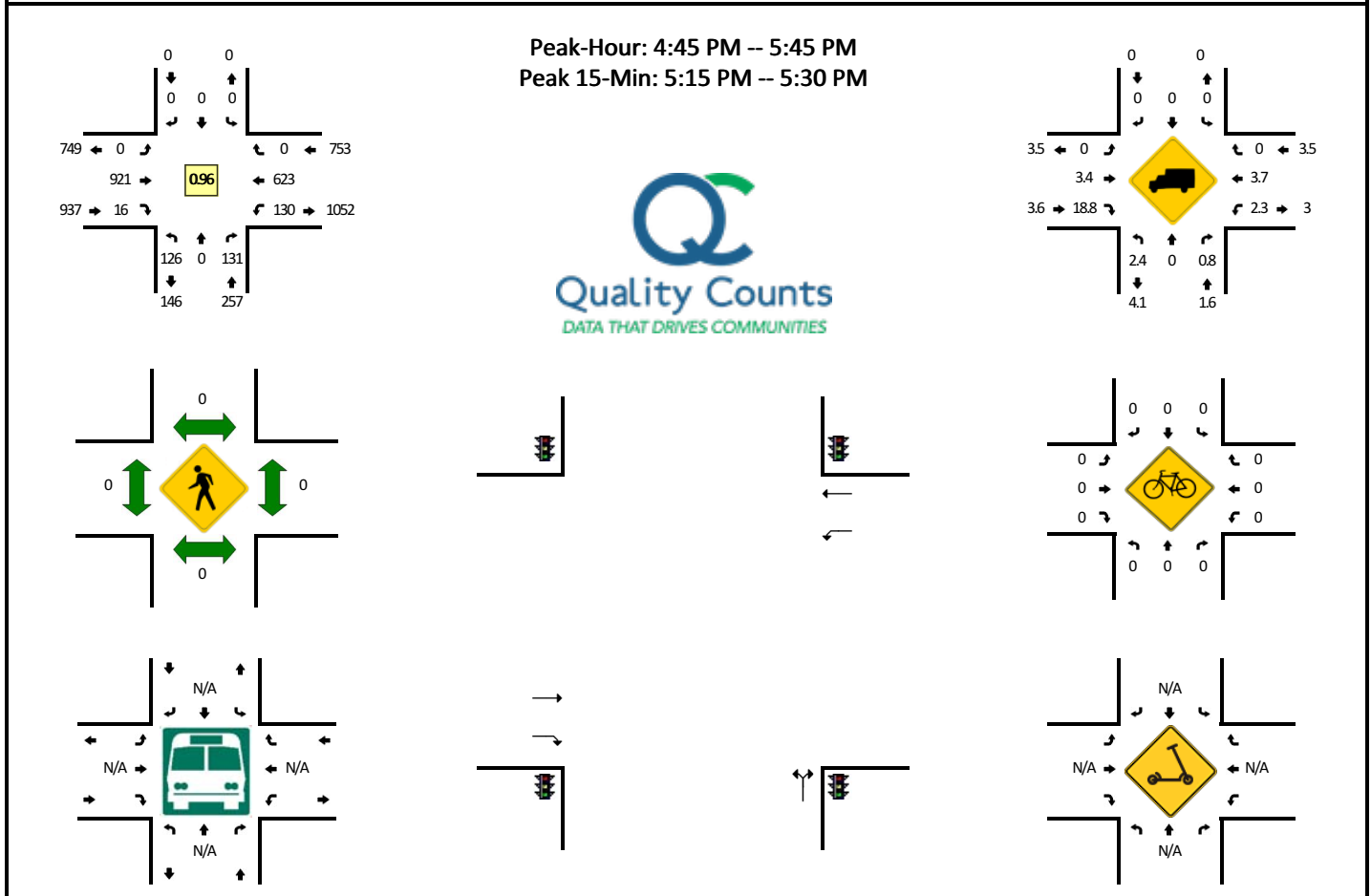


15-Min Count Period Beginning At	Rite Aid Dwy (Northbound)				Rite Aid Dwy (Southbound)				Idlewild Rd (Eastbound)				Idlewild Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	7	0	3	0	0	0	0	0	0	78	0	0	7	210	0	0	305	
7:15 AM	8	0	5	0	0	0	0	0	0	78	1	0	10	240	0	1	343	
7:30 AM	4	0	3	0	0	0	0	0	0	95	1	0	7	230	0	0	340	
7:45 AM	13	0	6	0	0	0	0	0	0	90	1	0	9	198	0	0	317	1305
8:00 AM	6	0	1	0	0	0	0	0	0	90	2	0	14	185	0	0	298	1298
8:15 AM	16	0	6	0	0	0	0	0	0	85	1	0	21	189	0	0	318	1273
8:30 AM	7	0	9	0	0	0	0	0	0	83	0	0	12	184	0	0	295	1228
8:45 AM	8	0	8	0	0	0	0	0	0	68	2	0	16	147	0	0	249	1160
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	32	0	20	0	0	0	0	0	0	312	4	0	40	960	0	4	1372	
Heavy Trucks	0	0	0	0	0	0	0	0	0	20	0	0	0	44	0	0	64	
Buses																		
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	
Scooters																		

Comments:

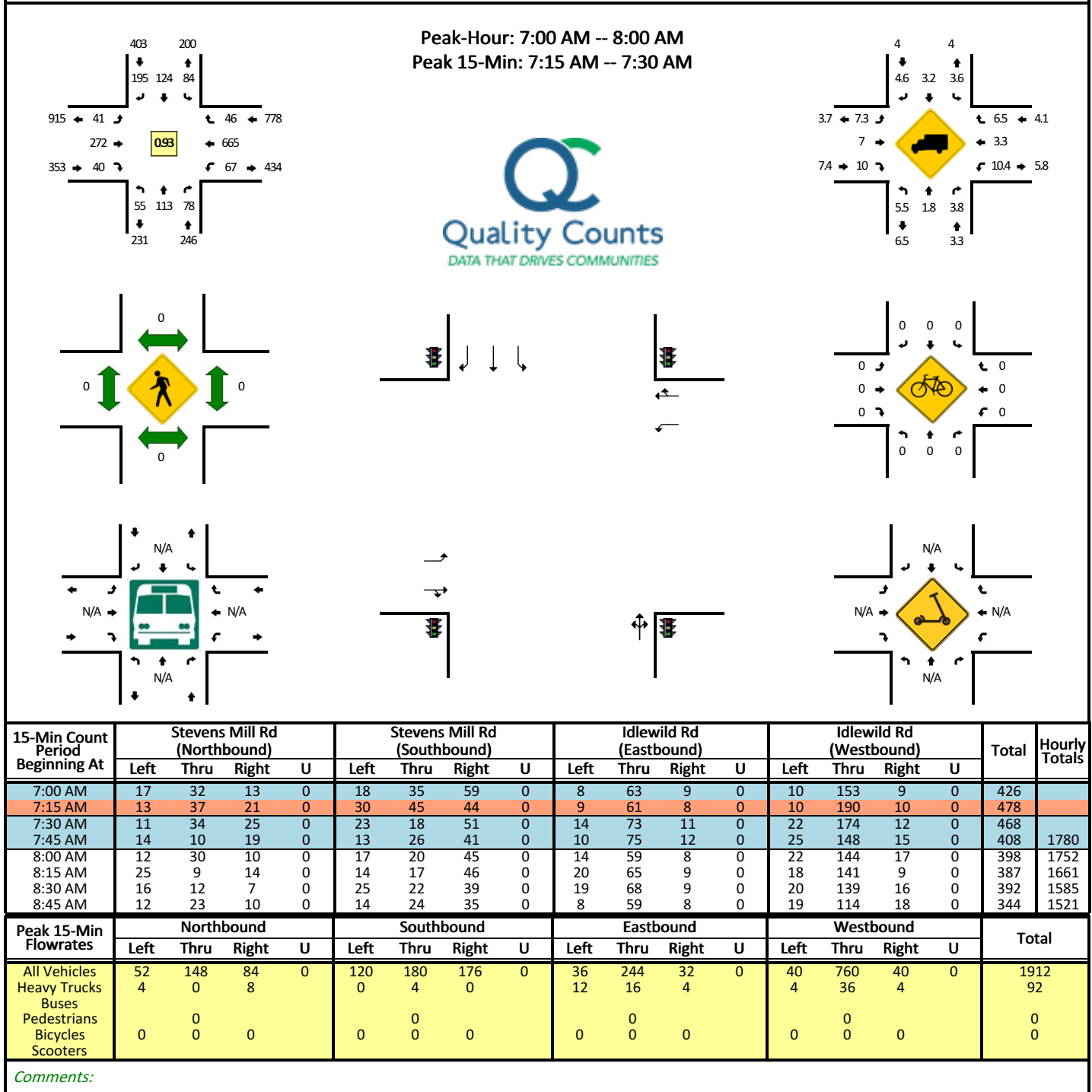
LOCATION: Rite Aid Dwy -- Idlewild Rd
CITY/STATE: Stallings, NC

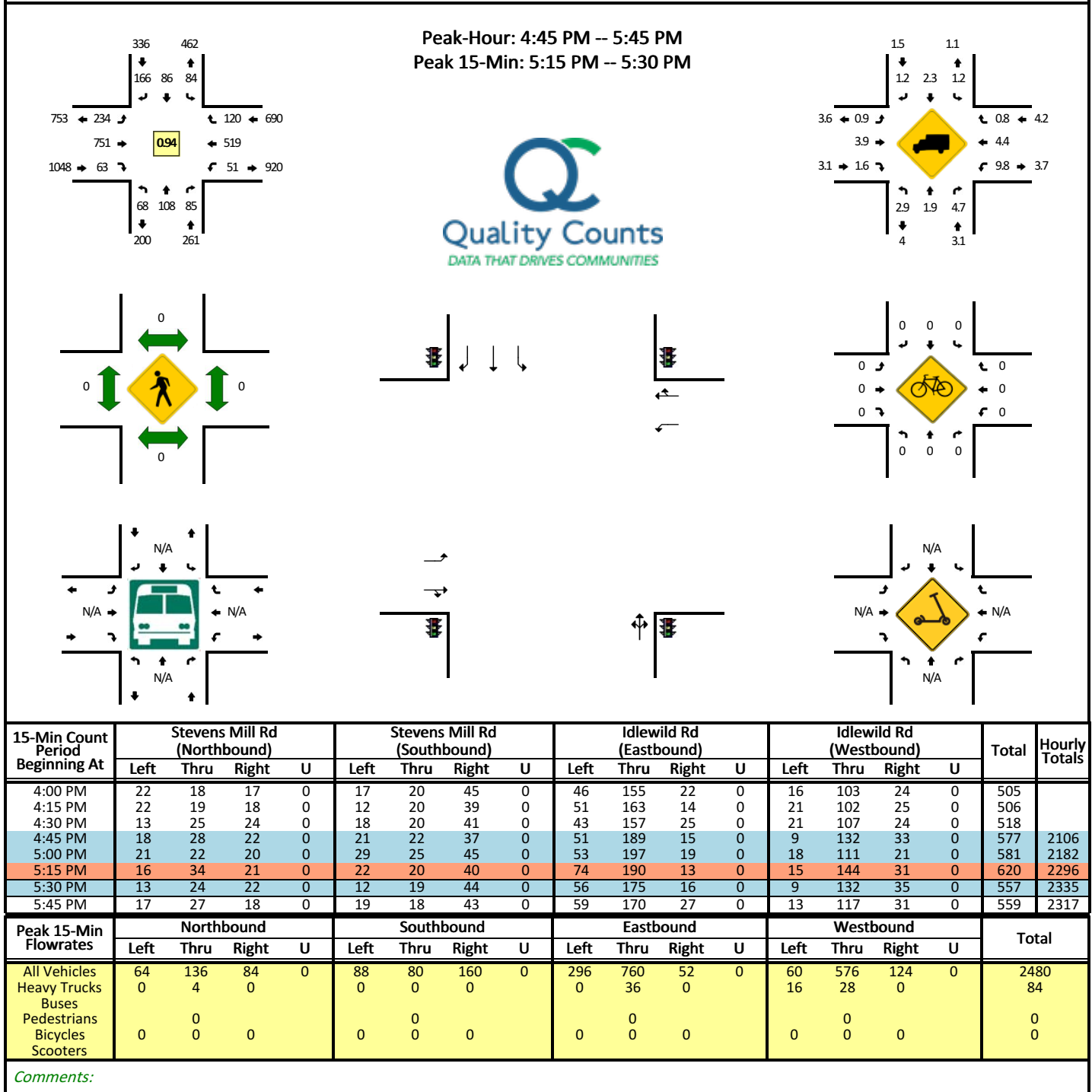
QC JOB #: 15681810
DATE: Thu, Jan 13 2022



15-Min Count Period Beginning At	Rite Aid Dwy (Northbound)				Rite Aid Dwy (Southbound)				Idlewild Rd (Eastbound)				Idlewild Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	16	0	28	0	0	0	0	0	0	201	4	0	30	135	0	0	414	
4:15 PM	30	0	25	0	0	0	0	0	0	206	11	0	36	132	0	0	440	
4:30 PM	26	0	30	0	0	0	0	0	0	196	4	0	28	135	0	0	419	
4:45 PM	32	0	32	0	0	0	0	0	0	229	6	0	33	146	0	0	478	1751
5:00 PM	27	0	37	0	0	0	0	0	0	233	4	0	29	148	0	0	478	1815
5:15 PM	34	0	32	0	0	0	0	0	0	230	2	0	38	169	0	0	505	1880
5:30 PM	33	0	30	0	0	0	0	0	0	229	4	0	30	160	0	0	486	1947
5:45 PM	29	0	47	0	0	0	0	0	0	200	6	0	40	139	0	0	461	1930
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	136	0	128	0	0	0	0	0	0	920	8	0	152	676	0	0	2020	
Heavy Trucks	0	0	0	0	0	0	0	0	0	32	0	0	4	20	0	0	56	
Buses																		
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	
Scooters																		

Comments:

LOCATION: Stevens Mill Rd -- Idlewild Rd**QC JOB #:** 15681811**CITY/STATE:** Stallings, NC**DATE:** Thu, Jan 13 2022

LOCATION: Stevens Mill Rd -- Idlewild Rd**CITY/STATE:** Stallings, NC**QC JOB #:** 15681812**DATE:** Thu, Jan 13 2022

APPENDIX C

SIGNAL INFORMATION

PHASING DIAGRAM

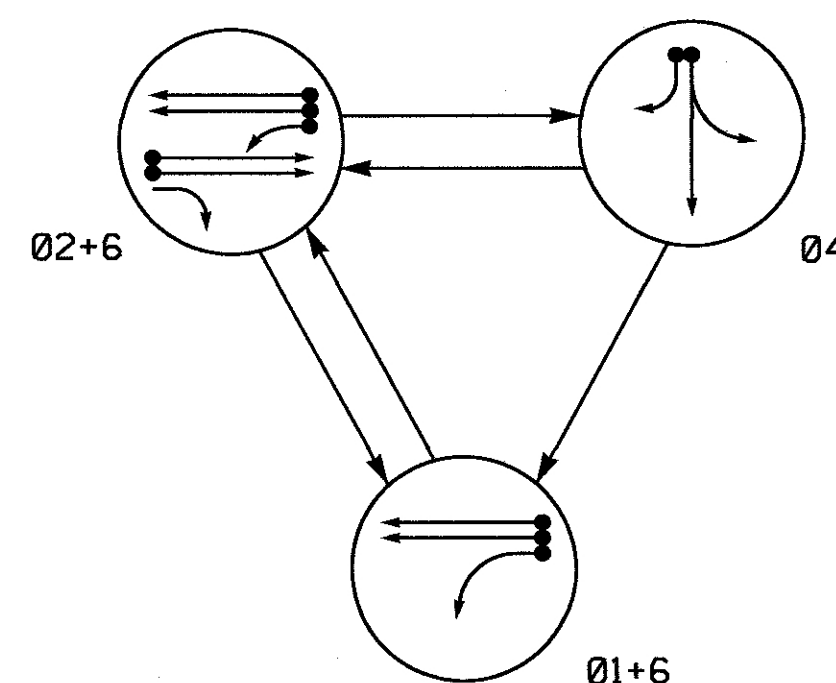


TABLE OF OPERATION

SIGNAL FACE	PHASE			
	01+6	02+6	04	FLASH
11	←	←	←	←
21,22	R	G	R	Y
41,42	R	R	G	R
61,62	G	G	R	Y

← = Flashing Yellow Arrow

STANDARD SIGNAL FACE CLEARANCES FOR FLASHING LEFT TURN SIGNAL

	TO					
	1	2	1	2	1	2
FROM	←	←	←	←	←	←
FROM	←	←	←	←	←	←
FROM	←	←	←	←	←	←
FROM	←	←	←	←	←	←

← = Flashing Yellow Arrow

2070L LOOP & DETECTOR INSTALLATION

INDUCTIVE LOOPS				DETECTOR PROGRAMMING							
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	PHASE	CALLING	EXTENSION	FULL TIME DELAY	STRETCH TIME	DELAY TIME	SYSTEM LOOP
1A	6X40	0	2-4-2	-	1	Y	Y	-	-	15	-
2A/S01	6X6	300	5	-	2	Y	Y	-	-	3	-
2B/S02	6X6	300	5	-	2	Y	Y	-	-	-	Y
4A	6X40	0	2-4-2	-	4	Y	Y	-	-	-	-
4B	6X40	0	2-4-2	-	4	Y	Y	-	-	15	-
6A	6X6	290	4	-	6	Y	Y	-	-	-	-
6B	6X6	290	4	-	6	Y	Y	-	-	-	-
S03	6X6	+110	3	-	-	-	-	-	-	-	Y
S04	6X6	+110	3	-	-	-	-	-	-	-	Y

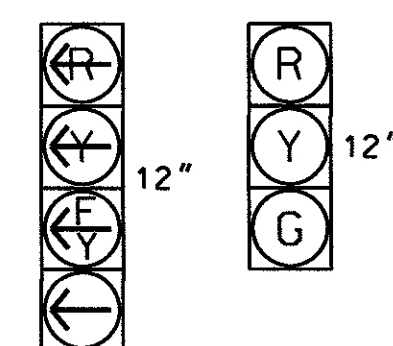
3 Phase
Fully Actuated
SR 3174/1501 (Idlewild Road) CLS

NOTES

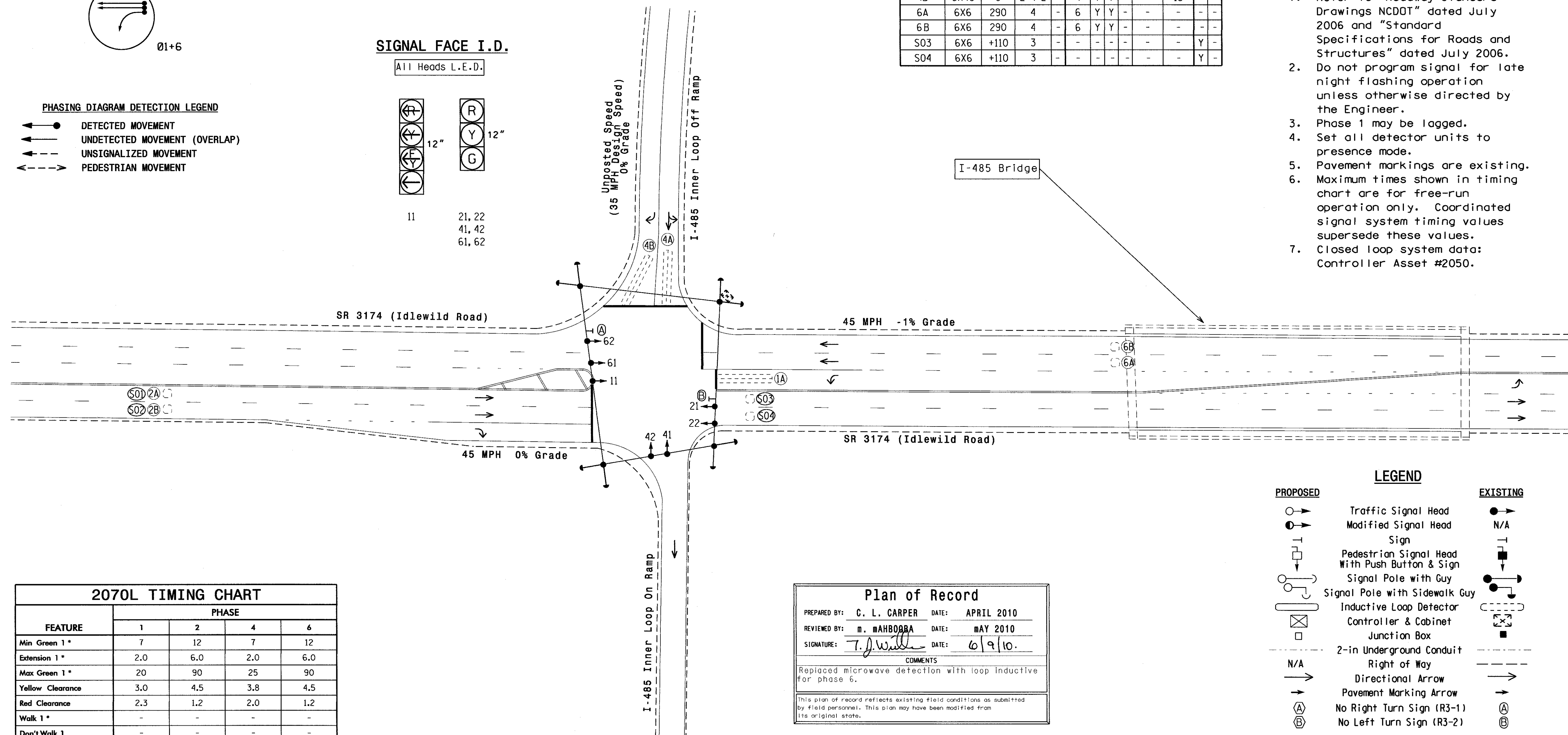
- Refer to "Roadway Standard Drawings NCDOT" dated July 2006 and "Standard Specifications for Roads and Structures" dated July 2006.
- Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
- Phase 1 may be lagged.
- Set all detector units to presence mode.
- Pavement markings are existing.
- Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.
- Closed loop system data: Controller Asset #2050.

PHASING DIAGRAM DETECTION LEGEND

- ← ● DETECTED MOVEMENT
- ← UNDETECTED MOVEMENT (OVERLAP)
- ← - - - UNSIGNALIZED MOVEMENT
- ← - - - PEDESTRIAN MOVEMENT



11 21, 22
41, 42
61, 62



2070L TIMING CHART

FEATURE	PHASE			
	1	2	4	6
Min Green 1 *	7	12	7	12
Extension 1 *	2.0	6.0	2.0	6.0
Max Green 1 *	20	90	25	90
Yellow Clearance	3.0	4.5	3.8	4.5
Red Clearance	2.3	1.2	2.0	1.2
Walk 1 *	-	-	-	-
Don't Walk 1	-	-	-	-
Seconds Per Actuation *	-	1.5	-	1.5
Max Variable Initial *	-	34	-	33
Time Before Reduction *	-	15	-	15
Time To Reduce *	-	30	-	2.0
Minimum Gap	-	3.0	-	3.0
Recall Mode	-	MIN RECALL	-	MIN RECALL
Vehicle Call Memory	-	YELLOW	-	YELLOW
Dual Entry	-	-	-	-
Simultaneous Gap	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.

Plan of Record

PREPARED BY: C. L. CARPER DATE: APRIL 2010
REVIEWED BY: M. MAHBOOBA DATE: MAY 2010
SIGNATURE: T. J. Williams DATE: 6/9/10.

COMMENTS
Replaced microwave detection with loop inductive for phase 6.

This plan of record reflects existing field conditions as submitted by field personnel. This plan may have been modified from its original state.

LEGEND

PROPOSED	EXISTING
○ → Traffic Signal Head	● →
● → Modified Signal Head	N/A
□ → Sign	□ →
□ → Pedestrian Signal Head	□ →
□ → Signal Pole with Push Button & Sign	□ →
□ → Signal Pole with Guy	□ →
□ → Signal Pole with Sidewalk Guy	□ →
□ → Inductive Loop Detector	□ →
□ → Controller & Cabinet	□ →
□ → Junction Box	□ →
□ → 2-in Underground Conduit	□ →
□ → Right of Way	□ →
□ → Directional Arrow	□ →
□ → Pavement Marking Arrow	□ →
□ → No Right Turn Sign (R3-1)	□ →
□ → No Left Turn Sign (R3-2)	□ →

Plan of Record

REVISION SEAL NORTH CAROLINA PROFESSIONAL SEAL 24393 ENGINEER TWOOTHY J. WILLIAMS 6/9/10	Prepared in the Office of: Transportation Mobility and Safety Division NORTH CAROLINA DEPARTMENT OF TRANSPORTATION Signal Design Section 750 N. Greenfield Pkwy, Garner, NC 27529	SR 3174 (Idlewild Road) at I-485 Inner Loop Ramps Division 10 Wecklenburg County Stallings PLAN DATE: February 2009 REVIEWED BY: M. Mahbooba PREPARED BY: MKM REVIEWED BY: Jwo. 6/9/10	Not a certified document. This document originally Issued and sealed by Zachary M. Little, PE No. 30530 on 4/16/2009. This document shall not be considered a certified document. SIG. INVENTORY NO. 10-2050
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- 2-1 - Phase Control
- 2-2 - Dynamic/Backup Control Functions
- 3 - Phase Timing
- 4 - Phase Sequence
- 5 - Inputs
- 6-1 - Output Assignments
- 6-2 - Output Beacon Settings
- 6-3 - Logical I/O Processor
- 7-1 - Vehicle Detector Assignments
- 7-2 - Pedestrian Detector Assignments
- 7-3 - General Vehicle Detector Settings
- 8-1 - Vehicle Ovl, 8-2 - Pedestrian Ovl Settings
- 9 - Coordination
- A-1 - Standard Preemptions
- B - Scheduling
- C - User Profiles
- D-1 - Set Clock, D-2 - General Comm Config
- D-3 - Comm Port Configuration
- D-4 - Logging Controls, D-5 - Conflict Monitor

Coordination - Plan 11

Plan 11

Coordination Plan # 11

Cycle length (0-999 sec)
 Min Transition Cycle (0-999 sec)
 Max Transition Cycle (0-999 sec)

Offset # or Ring:	1	2	3	4
Offsets (0-999 sec)	13	0	0	0
Act Coord Phase Min Green (0-255)	0	0	0	0

Splits (0-255 sec)

Phase	1	2	3	4	5	6	7	8
Split	15	55	0	20	0	70	0	0
Phase	9	10	11	12	13	14	15	16
Split	0	0	0	0	0	0	0	0

Verify Plan Data

Phase/Function Settings:

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Coordinated Phase	2	6														
Float Force Offs																
Hold to Force Off																
Hi Priority Ped																
Dynamic/Backup																

Options:

Split/Timing in percent?
 *Permissive Mode (0-4) *0 = Auto
 Enable Transition Permissive Mode? 1 = Open
 Adjust Non-Coordinated Splits? 2 = Manual
 Cycle Once per Cycle Length? 3 = Window
 4 = Walk

Active Pages:

Phase Sequence Page (1-12)
 Phase Timing Page (1-4)
 Phase Control Page (1-4)
 OverLap Control Page (1-4)
 Input Page (1-4)
 Output Page (1-4)

Global Manual Permissive windows:

*Applies when "Window" permissive is selected

Manual Permissives by Phase:

*Applies when "Manual" permissive is selected

	Vehicle		Pedestrian	
(0-255 sec)	Start	Stop	Start	Stop
Phase 1	0	0	0	0
Phase 2	0	0	0	0
Phase 3	0	0	0	0
Phase 4	0	0	0	0
Phase 5	0	0	0	0
Phase 6	0	0	0	0
Phase 7	0	0	0	0
Phase 8	0	0	0	0
Phase 9	0	0	0	0
Phase 10	0	0	0	0
Phase 11	0	0	0	0
Phase 12	0	0	0	0
Phase 13	0	0	0	0

- 2-1 - Phase Control
- 2-2 - Dynamic/Backup Control Functions
- 3 - Phase Timing
- 4 - Phase Sequence
- 5 - Inputs
- 6-1 - Output Assignments
- 6-2 - Output Beacon Settings
- 6-3 - Logical I/O Processor
- 7-1 - Vehicle Detector Assignments
- 7-2 - Pedestrian Detector Assignments
- 7-3 - General Vehicle Detector Settings
- 8-1 - Vehicle Ovl, 8-2 - Pedestrian Ovl Settings
- 9 - Coordination
- A-1 - Standard Preemptions
- B - Scheduling
- C - User Profiles
- D-1 - Set Clock, D-2 - General Comm Config
- D-3 - Comm Port Configuration
- D-4 - Logging Controls, D-5 - Conflict Monitor

Coordination - Plan 5

Plan 5

Coordination Plan # 5

Cycle length (0-999 sec)
 Min Transition Cycle (0-999 sec)
 Max Transition Cycle (0-999 sec)

Offset # or Ring:

	1	2	3	4
Offsets (0-999 sec)	85	0	0	0
Act Coord Phase Min Green (0-255)	0	0	0	0

Splits (0-255 sec)

Phase	1	2	3	4	5	6	7	8
Split	15	55	0	20	0	70	0	0
Phase	9	10	11	12	13	14	15	16
Split	0	0	0	0	0	0	0	0

Verify Plan Data

Phase/Function Settings:

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Coordinated Phase	2					6										
Float Force Offs																
Hold to Force Off																
Hi Priority Ped																
Dynamic/Backup																

Options:

Split/Timing in percent?
 *Permissive Mode (0-4) *0 = Auto
 Enable Transition Permissive Mode? 1 = Open
 Adjust Non-Coordinated Splits? 2 = Manual
 Cycle Once per Cycle Length? 3 = Window
 4 = Walk

Active Pages:

Phase Sequence Page (1-12)
 Phase Timing Page (1-4)
 Phase Control Page (1-4)
 OverLap Control Page (1-4)
 Input Page (1-4)
 Output Page (1-4)

Global Manual Permissive windows:

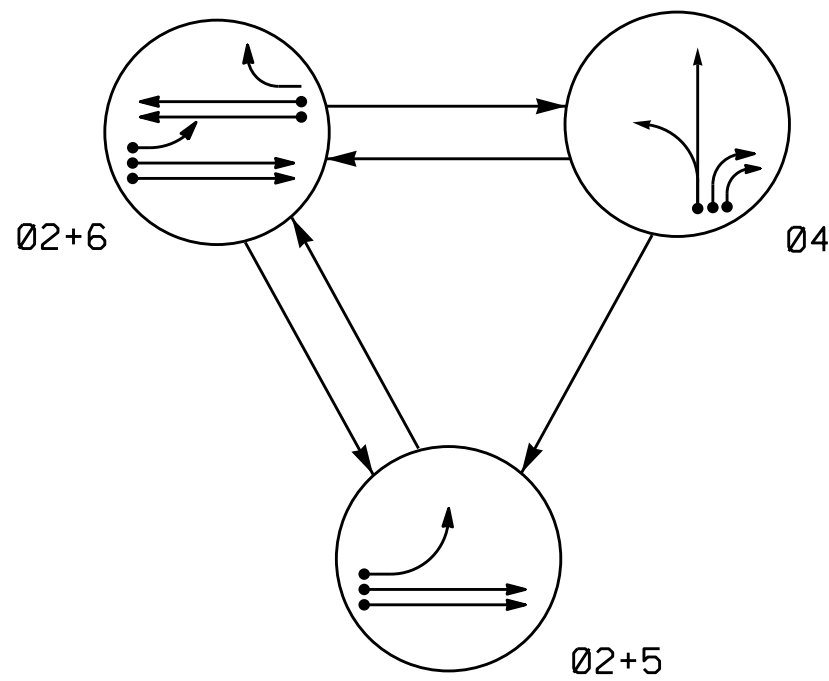
*Applies when "Window" permissive is selected

Manual Permissives by Phase:

*Applies when "Manual" permissive is selected

(0-255 sec)	Vehicle		Pedestrian	
	Start	Stop	Start	Stop
Phase 1	0	0	0	0
Phase 2	0	0	0	0
Phase 3	0	0	0	0
Phase 4	0	0	0	0
Phase 5	0	0	0	0
Phase 6	0	0	0	0
Phase 7	0	0	0	0
Phase 8	0	0	0	0
Phase 9	0	0	0	0
Phase 10	0	0	0	0
Phase 11	0	0	0	0
Phase 12	0	0	0	0
Phase 13	0	0	0	0

PHASING DIAGRAM



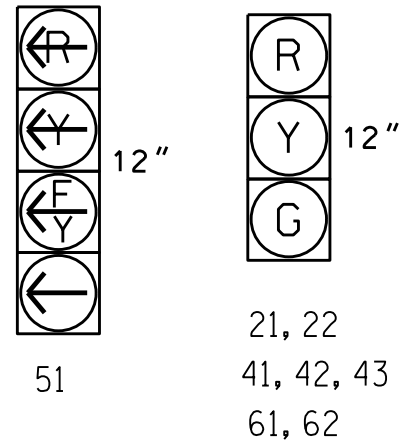
PHASING DIAGRAM DETECTION LEGEND

- DETECTED MOVEMENT
- UNDETECTED MOVEMENT (OVERLAP)
- - - UNSIGNALIZED MOVEMENT
- - - PEDESTRIAN MOVEMENT

SIGNAL FACE	PHASE			
	0 2 + 5	0 2 + 6	0 4	F L T
21,22	G	G	R	Y
41,42,43	R	R	G	R
43	R	R	G	R
51	-	-	-	-
61, 62	R	G	R	Y

SIGNAL FACE I.D.

All Heads L.E.D.



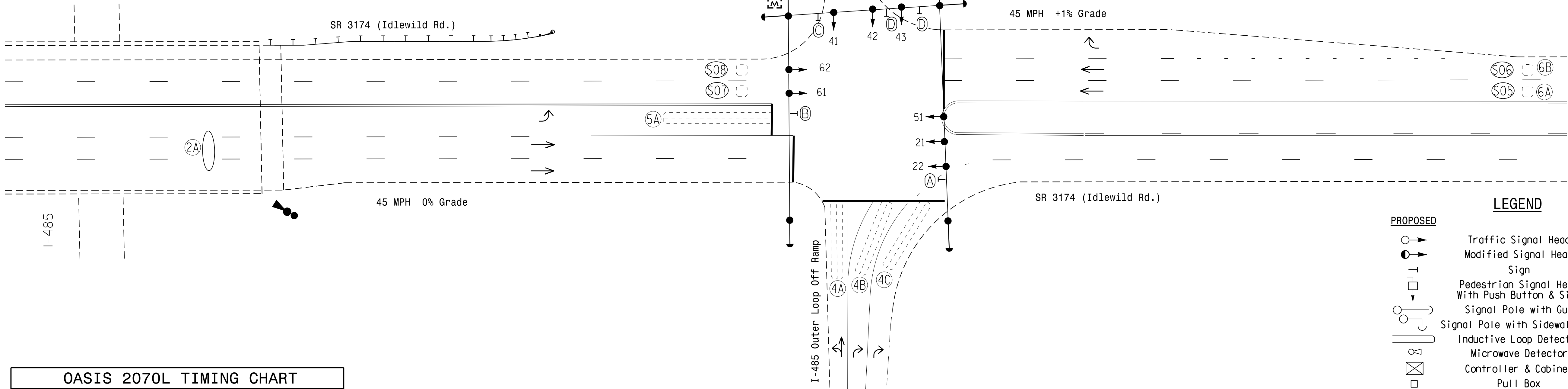
INDUCTIVE LOOPS					DETECTOR PROGRAMMING						
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	PHASE	CALLING	EXTENSION	FULL TIME DELAY	STRETCH TIME	DELAY TIME	SYSTEM LOOP
2A	*	300	*	-	2	Y	Y	-	-	-	-
4A	6X40	0	2-4-2	-	4	Y	Y	-	-	-	-
4B	6X40	0	2-4-2	-	4	Y	Y	-	-	15	-
4C	6X40	0	2-4-2	-	4	Y	Y	-	-	15	-
5A	6X60	0	2-4-2	-	5	Y	Y	-	-	15	-
6A/S05	6X6	300	4	-	6	Y	Y	-	-	-	Y
6B/S06	6X6	300	4	-	6	Y	Y	-	-	-	Y
S07	6X6	+75	3	-	-	-	-	-	-	-	Y
S08	6X6	+75	3	-	-	-	-	-	-	-	Y

* Microwave Detector

3 Phase
Fully Actuated
SR 3174/1501 (Idlewild Rd.) CLS

NOTES

- Refer to "Roadway Standard Drawings NCDOT" dated January 2012 and "Standard Specifications for Roads and Structures" dated January 2012.
- Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
- Phase 5 may be lagged.
- Set all detector units to presence mode.
- Pavement markings are existing.
- Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.
- Closed loop system data:
Master Asset # 11024,
Controller Asset # 1768.



OASIS 2070L TIMING CHART

FEATURE	PHASE			
	2	4	5	6
Min Green 1 *	12	7	7	12
Extension 1 *	6.0	1.0	1.0	6.0
Max Green 1 *	90	25	25	90
Yellow Clearance	4.5	3.7	3.0	4.5
Red Clearance	1.2	1.6	2.4	1.2
Walk 1 *	-	-	-	-
Don't Walk 1	-	-	-	-
Seconds Per Actuation *	2.0	-	-	1.5
Max Variable Initial *	34	-	-	34
Time Before Reduction *	15	-	-	15
Time To Reduction *	30	-	-	30
Minimum Gap	3.0	-	-	3.0
Recall Mode	MIN RECALL	-	-	MIN RECALL
Vehicle Call Memory	YELLOW	-	-	YELLOW
Dual Entry	-	-	-	-
Simultaneous Gap	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.

LEGEND

- | PROPOSED | EXISTING |
|----------|----------|
| | |
| | N/A |
| | |
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Plan of Record

PREPARED BY: C. Pierce DATE: August 2017

REVIEWED BY: T. J. Williams DATE: August 2017

SIGNATURE: *T. J. Williams* DATE: 8/23/2017

COMMENTS: Added a second right turn lane on the ramp...

This plan of record reflects existing field conditions as submitted by field personnel. This plan may have been modified from its original state.

Plan of Record

	SR 3174 (Idlewild Rd.) at I-485 Outer Loop Ramps		
	Division 10	Mecklenburg County Stallings	
	PLAN DATE: February 2009	REVIEWED BY: M. Mahbooba	
	PREPARED BY: MKM	REVIEWED BY:	
REVISIONS		INIT.	DATE
0			
1" = 30'			

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Not a certified document. This document originally issued and sealed by Zachary M. Little, # 305330 on 04/16/09. This document shall not be considered a certified document.

SIG. INVENTORY NO. 10-1768

- 2-1 - Phase Control
- 2-2 - Dynamic/Backup Control Functions
- 3 - Phase Timing
- 4 - Phase Sequence
- 5 - Inputs
- 6-1 - Output Assignments
- 6-2 - Output Beacon Settings
- 6-3 - Logical I/O Processor
- 7-1 - Vehicle Detector Assignments
- 7-2 - Pedestrian Detector Assignments
- 7-3 - General Vehicle Detector Settings
- 8-1 - Vehicle Ovl, 8-2 - Pedestrian Ovl Settings
- 9 - Coordination
- A-1 - Standard Preemptions
- B - Scheduling
- C - User Profiles
- D-1 - Set Clock, D-2 - General Comm Config
- D-3 - Comm Port Configuration
- D-4 - Logging Controls, D-5 - Conflict Monitor

Coordination - Plan 11

Plan 11

Coordination Plan # 11

Cycle length (0-999 sec) 90
 Min Transition Cycle (0-999 sec) 60
 Max Transition Cycle (0-999 sec) 90

Offset # or Ring:

	1	2	3	4
Offsets (0-999 sec)	88	0	0	0
Act Coord Phase Min Green (0-255)	0	0	0	0

Splits (0-255 sec)

Phase	1	2	3	4	5	6	7	8
Split	0	70	0	20	15	55	0	0
Phase	9	10	11	12	13	14	15	16
Split	0	0	0	0	0	0	0	0

Verify Plan Data

Phase/Function Settings:

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Coordinated Phase		2				6										
Float Force Offs																
Hold to Force Off																
Hi Priority Ped																
Dynamic/Backup																

Options:

Split/Timing in percent? N
 *Permissive Mode (0-4) 0 *0 = Auto
 Enable Transition Permissive Mode? N 1 = Open
 Adjust Non-Coordinated Splits? Y 2 = Manual
 Cycle Once per Cycle Length? Y 3 = Window
 4 = Walk

Active Pages:

Phase Sequence Page (1-12) 3
 Phase Timing Page (1-4) 1
 Phase Control Page (1-4) 1
 OverLap Control Page (1-4) 1
 Input Page (1-4) 1
 Output Page (1-4) 1

Global Manual Permissive windows:

*Applies when "Window" permissive is selected

Manual Permissives by Phase:

*Applies when "Manual" permissive is selected

(0-255 sec)	Vehicle		Pedestrian	
	Start	Stop	Start	Stop
Phase 1	0	0	0	0
Phase 2	0	0	0	0
Phase 3	0	0	0	0
Phase 4	0	0	0	0
Phase 5	0	0	0	0
Phase 6	0	0	0	0
Phase 7	0	0	0	0
Phase 8	0	0	0	0
Phase 9	0	0	0	0
Phase 10	0	0	0	0
Phase 11	0	0	0	0
Phase 12	0	0	0	0
Phase 13	0	0	0	0

- 2-1 - Phase Control
- 2-2 - Dynamic/Backup Control Functions
- 3 - Phase Timing
- 4 - Phase Sequence
- 5 - Inputs
- 6-1 - Output Assignments
- 6-2 - Output Beacon Settings
- 6-3 - Logical I/O Processor
- 7-1 - Vehicle Detector Assignments
- 7-2 - Pedestrian Detector Assignments
- 7-3 - General Vehicle Detector Settings
- 8-1 - Vehicle Ovl, 8-2 - Pedestrian Ovl Settings
- 9 - Coordination
- A-1 - Standard Preemptions
- B - Scheduling
- C - User Profiles
- D-1 - Set Clock, D-2 - General Comm Config
- D-3 - Comm Port Configuration
- D-4 - Logging Controls, D-5 - Conflict Monitor

Coordination - Plan 5

Plan 5

Coordination Plan # 5

Cycle length (0-999 sec) 90
 Min Transition Cycle (0-999 sec) 60
 Max Transition Cycle (0-999 sec) 90

Offset # or Ring:

	1	2	3	4
Offsets (0-999 sec)	8	0	0	0
Act Coord Phase Min Green (0-255)	0	0	0	0

Splits (0-255 sec)

Phase	1	2	3	4	5	6	7	8
Split	0	70	0	20	15	55	0	0
Phase	9	10	11	12	13	14	15	16
Split	0	0	0	0	0	0	0	0

Verify Plan Data

Phase/Function Settings:

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Coordinated Phase		2				6										
Float Force Offs																
Hold to Force Off																
Hi Priority Ped																
Dynamic/Backup																

Options:

Split/Timing in percent? N
 *Permissive Mode (0-4) 0 *0 = Auto
 Enable Transition Permissive Mode? N 1 = Open
 Adjust Non-Coordinated Splits? Y 2 = Manual
 Cycle Once per Cycle Length? Y 3 = Window
 4 = Walk

Active Pages:

Phase Sequence Page (1-12) 3
 Phase Timing Page (1-4) 1
 Phase Control Page (1-4) 1
 OverLap Control Page (1-4) 1
 Input Page (1-4) 1
 Output Page (1-4) 1

Global Manual Permissive windows:

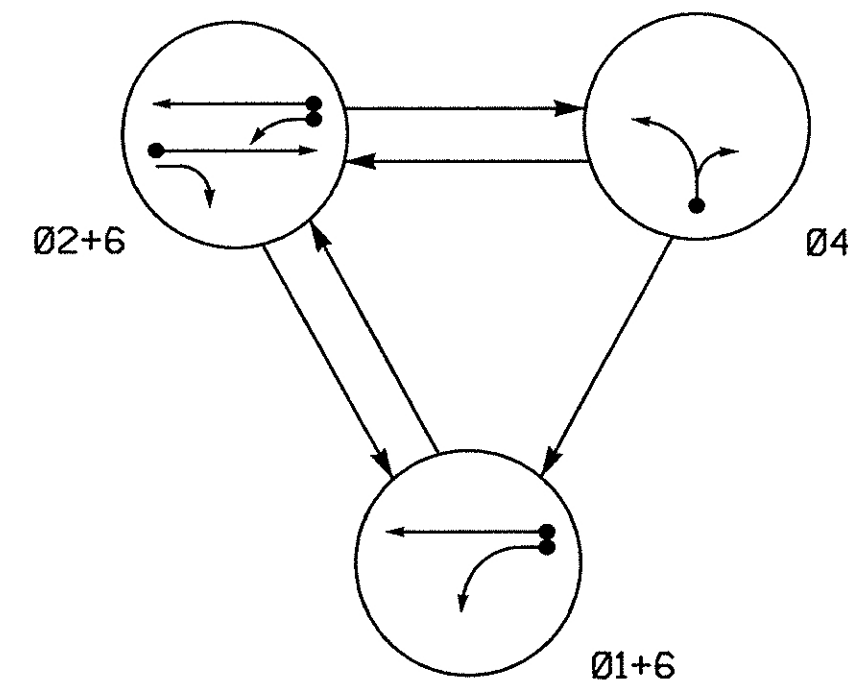
*Applies when "Window" permissive is selected

Manual Permissives by Phase:

*Applies when "Manual" permissive is selected

(0-255 sec)	Vehicle		Pedestrian	
	Start	Stop	Start	Stop
Phase 1	0	0	0	0
Phase 2	0	0	0	0
Phase 3	0	0	0	0
Phase 4	0	0	0	0
Phase 5	0	0	0	0
Phase 6	0	0	0	0
Phase 7	0	0	0	0
Phase 8	0	0	0	0
Phase 9	0	0	0	0
Phase 10	0	0	0	0
Phase 11	0	0	0	0
Phase 12	0	0	0	0
Phase 13	0	0	0	0

PHASING DIAGRAM



SIGNAL FACE	PHASE			
	Ø 1 + 6	Ø 2 + 6	Ø 4	F L E A R A N C E
11	←	←	←	←
21,22	R	G	R	Y
41,42	R	R	G	R
61,62	G	G	R	Y

← = Flashing Yellow Arrow

STANDARD SIGNAL FACE CLEARANCES FOR FLASHING LEFT TURN SIGNAL									
		TO							
		←		↱		↲			
		1	2	1	2	1	2		
FROM	←	←	←	↱	↲	↱	↲		
	↱	↱	↱	↱	↱	↱	↱		
	↲	↲	↲	↲	↲	↲	↲		

↱ = Flashing Yellow Arrow

← = Flashing Yellow Arrow

2070L LOOP & DETECTOR INSTALLATION									
INDUCTIVE LOOPS					DETECTOR PROGRAMMING				
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	PHASE	CALLING	EXTENSION	FULL TIME DELAY	STRETCH TIME
1A	6X60	0	2-4-2	-	1	Y	Y	-	15
2A/S07	6X6	300	5	-	2	Y	Y	-	3
4A	6X60	0	2-4-2	-	4	Y	Y	-	3
4B	6X6	0	3	-	4	Y	Y	-	10
6A/S08	6X6	300	5	-	6	Y	Y	-	-

3 Phase
Fully Actuated
SR 3174/1501 (Idlewild Rd) CLS

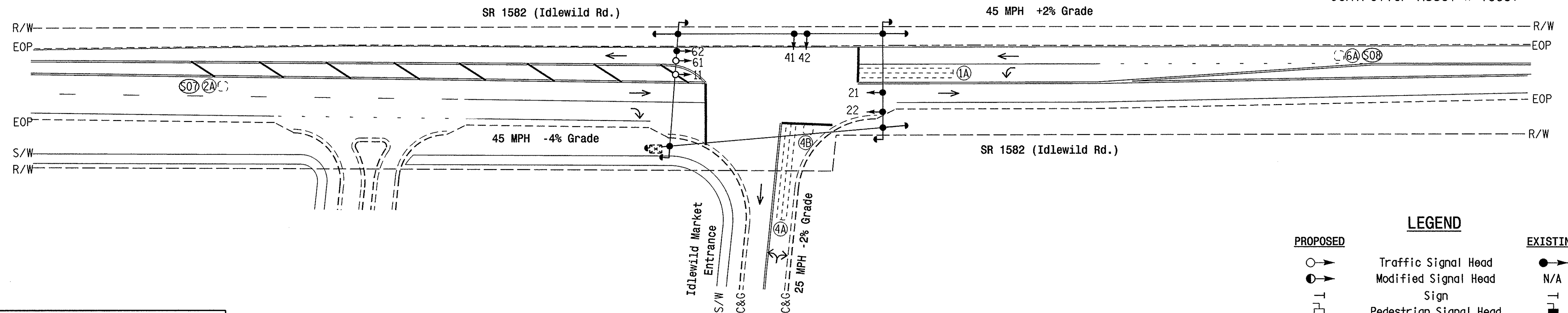
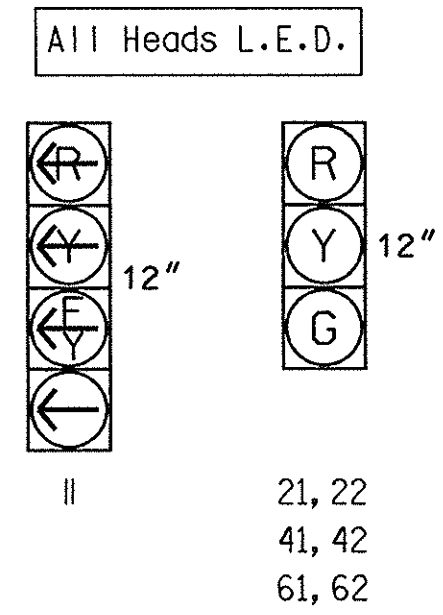
NOTES

- Refer to "Roadway Standard Drawings NCDOT" dated July 2006 and "Standard Specifications for Roads and Structures" dated July 2006.
- Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
- Phase 1 may be lagged.
- Reposition signal head numbered 62.
- Set all detector units to presence mode.
- Pavement markings are existing.
- Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.
- Closed loop system data: Controller Asset # 1895.

PHASING DIAGRAM DETECTION LEGEND

- ← ● DETECTED MOVEMENT
- ← UNDETECTED MOVEMENT (OVERLAP)
- ← - - - UNSIGNALIZED MOVEMENT
- ← - - - PEDESTRIAN MOVEMENT

SIGNAL FACE I.D.



2070L TIMING CHART

FEATURE	PHASE			
	1	2	4	6
Min Green 1 *	7	12	7	12
Extension 1 *	1.0	6.0	1.0	6.0
Max Green 1 *	15	90	25	90
Yellow Clearance	3.0	4.9	3.0	4.9
Red Clearance	2.3	1.3	1.9	1.3
Walk 1 *	-	-	-	-
Don't Walk 1	-	-	-	-
Seconds Per Actuation *	-	2.5	-	2.5
Max Variable Initial *	-	34	-	34
Time Before Reduction *	-	15	-	15
Time To Reduce *	-	30	-	30
Minimum Gap	-	3.0	-	3.0
Recall Mode	-	MIN RECALL	-	MIN RECALL
Vehicle Call Memory	-	YELLOW	-	YELLOW
Dual Entry	-	-	-	-
Simultaneous Gap	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.

LEGEND

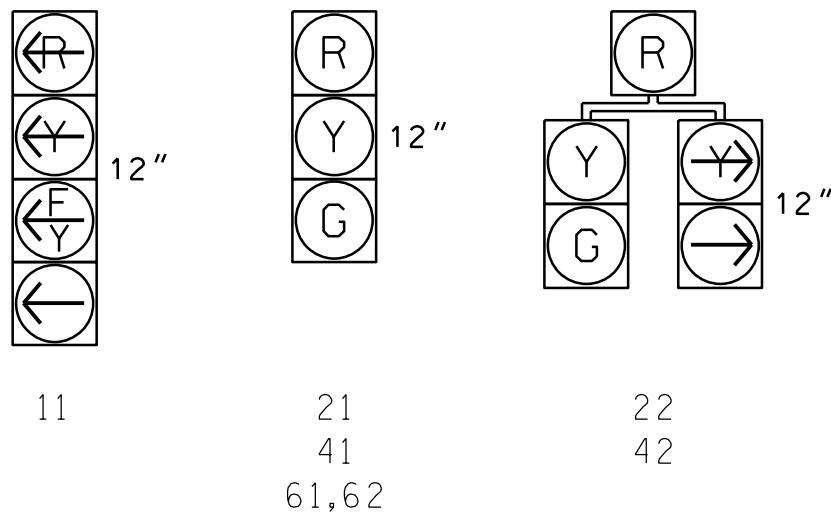
- | PROPOSED | EXISTING |
|-----------------------------------|----------|
| ○ → Traffic Signal Head | ● → |
| ● → Modified Signal Head | N/A |
| □ → Sign | □ → |
| ○ → Pedestrian Signal Head | □ → |
| □ → With Push Button & Sign | □ → |
| ○ → Signal Pole with Guy | ● → |
| ○ → Signal Pole with Sidewalk Guy | ● → |
| □ → Inductive Loop Detector | □ → |
| □ → Controller & Cabinet | □ → |
| □ → Junction Box | □ → |
| --- 2-in Underground Conduit | --- |
| N/A Right of Way | --- |
| → Directional Arrow | → |
| → Pavement Marking Arrow | → |

Signal Upgrade Corr. File No. 10-08-208

Prepared In the Office of: Transportation Mobility and Safety Division North Carolina Department of Transportation Signal Design Section 750 N. Greenfield Pkwy, Garner, NC 27529		SR 1501 (Idlewild Road) at Idlewild Market Entrance Division 10 Union County Stallings PLAN DATE: February 2009 REVIEWED BY: W. Mahbooba PREPARED BY: MKM REVIEWED BY: MKM		SEAL NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 30530 CHARY M. MAHBOOBA DATE: 4/14/09 SIG. INVENTORY NO. 10-1895	
SCALE 0 40 1"=40'		REVISIONS		INIT. DATE	

SIGNAL FACE	PHASE			
	Ø 1 + 6	Ø 2 + 6	Ø 4	FLASH
11	← F	R	R	Y
21	R	G	R	Y
22	R	G	R	Y
41	R	R	G	R
42	R	R	G	R
61,62	G	G	R	Y

All Heads L.E.D.



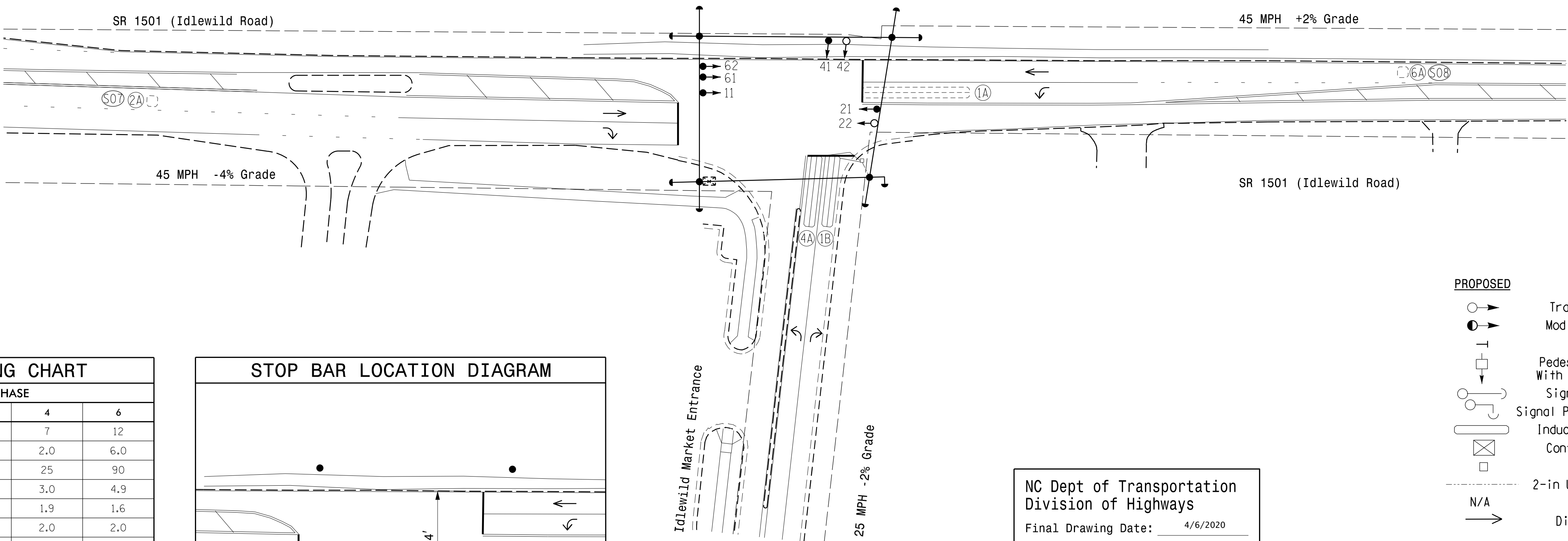
INDUCTIVE LOOPS					DETECTOR PROGRAMMING						
LOOP	SIZE (FT)	DISTANCE FROM STOMPBAR (FT)	TURNS	NEW LOOP	PHASE	CALLING	EXTENSION FULL TIME DELAY	STRETCH TIME	DELAY TIME	SYSTEM LOOP	NEW CARD
1A	6X60	0	2-4-2	-	1	Y	Y	-	15	-	-
					6	Y	Y	Y	-	3	-
					Y	1	Y	Y	-	15	-
2A/S07	6X6	300	5	-	2	Y	Y	-	-	-	Y
4A	6X40	0	2-4-2	Y	4	Y	Y	-	-	3	-
6A/S08	6X6	300	5	-	6	Y	Y	-	-	-	Y

NOTES

1. Refer to "Roadway Standard Drawings NCDOT" dated January 2018, "Standard Specifications for Roads and Structures" dated January 2018 and all applicable sections of the latest version of the generic Project Special Provisions. The PSP can be accessed at the following website:
<https://connect.ncdot.gov/resources/safety/pages/its-and-signals.aspx>
2. Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
3. Phase 1 may be lagged.
4. Reposition existing signal heads numbered 21 and 41.
5. Set all detector units to presence mode.
6. In the event of loop replacement, refer to the current ITS and Signals Design Manual and submit a plan of record to the Signal Design Section
7. Closed loop system data: Controller Asset #1895

PHASING DIAGRAM DETECTION LEGEND

- | | |
|---|-------------------------------|
|  | DETECTED MOVEMENT |
|  | UNDETECTED MOVEMENT (OVERLAP) |
|  | UNSIGNALIZED MOVEMENT |
| | PEDESTRIAN MOVEMENT |



OASIS 2070 TIMING CHART				
FEATURE	PHASE			
	1	2	4	6
Min Green 1 *	7	12	7	12
Extension 1 *	1.0	6.0	2.0	6.0
Max Green 1 *	15	90	25	90
Yellow Clearance	3.0	4.9	3.0	4.9
Red Clearance	1.6	1.6	1.9	1.6
Red Revert	2.0	2.0	2.0	2.0
Walk 1 *	-	-	-	-
Don't Walk 1	-	-	-	-
Seconds Per Actuation *	-	2.5	-	2.5
Max Variable Initial *	-	34	-	34
Time Before Reduction *	-	15	-	15
Time To Reduce *	-	30	-	30
Minimum Gap	-	3.0	-	3.0
Recall Mode	-	MIN RECALL	-	MIN RECALL
Vehicle Call Memory	-	YELLOW	-	YELLOW
Dual Entry	-	-	-	-
Simultaneous Gap	ON	ON	ON	ON

STOP BAR LOCATION DIAGRAM

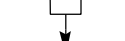
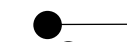
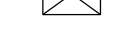
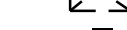
The diagram illustrates the placement of a stop bar at a T-intersection. A horizontal road is intersected by a vertical road. A dimension line of 54 feet is shown from the centerline of the horizontal road to the stop bar. Arrows indicate traffic flow: straight through, left turn, and right turn. A dashed line indicates the proposed stop bar location.

Final Drawing Date: 4/6/2020

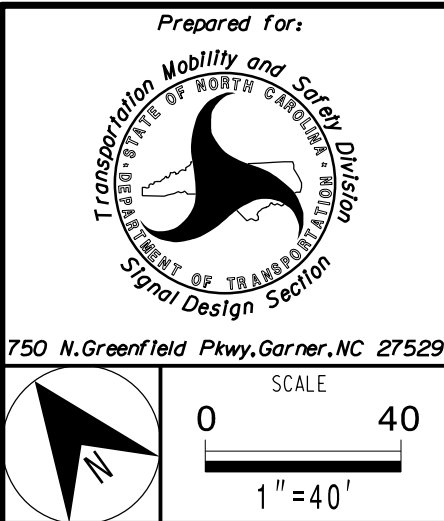
DocuSigned by:
R. N. Zin
F1388973472248F

ITS & Signals Unit

LEGEND

- | PROPOSED | | EXISTING |
|---|-------------------------------|---|
|  | Traffic Signal Head |  |
|  | Modified Signal Head | N/A |
|  | Sign |  |
|  | Pedestrian Signal Head |  |
|  | Signal Pole with Guy |  |
|  | Signal Pole with Sidewalk Guy |  |
|  | Inductive Loop Detector |  |
|  | Controller & Cabinet |  |
|  | Junction Box |  |
|  | 2-in Underground Conduit |  |
| N/A | Right of Way |  |
|  | Directional Arrow |  |

Signal Upgrade



Division 10 Union County Stallings

PLAN DATE: March 2020	REVIEWED BY: WJ Hamilton
-----------------------	--------------------------

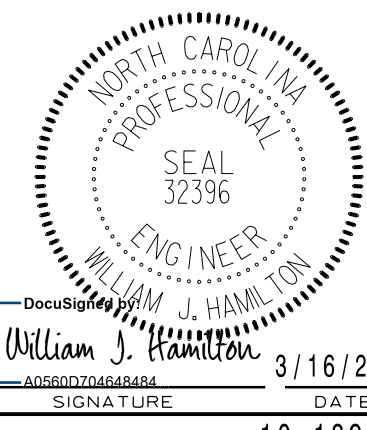
PREPARED BY:	IS PopeIka	AKA PROJ. NO:	18181.02 (040)
	PERMISSIONS	UNIT	DATE

REFLECTIONS	ENTRY	DATE

--	--	--

**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**

SEAL



SIG. INVENTORY NO. 10-1895

* 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.

RKA
RAMEY KEMP ASSOCIATES
8210 University Executive Park Drive Suite 220 Charlotte, North Carolina 28262
Phone: 704-545-4250 | www.rameykemp.com | NC License No. C-0910

- 2-1 - Phase Control
- 2-2 - Dynamic/Backup Control Functions
- 3 - Phase Timing
- 4 - Phase Sequence
- 5 - Inputs
- 6-1 - Output Assignments
- 6-2 - Output Beacon Settings
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- 7-1 - Vehicle Detector Assignments
- 7-2 - Pedestrian Detector Assignments
- 7-3 - General Vehicle Detector Settings
- 8-1 - Vehicle Ovl, 8-2 - Pedestrian Ovl Settings
- 9 - Coordination
- A-1 - Standard Preemptions
- B - Scheduling
- C - User Profiles
- D-1 - Set Clock, D-2 - General Comm Config
- D-3 - Comm Port Configuration
- D-4 - Logging Controls, D-5 - Conflict Monitor

Coordination - Plan 11

Plan 11

Coordination Plan # 11

Cycle length (0-999 sec) 90
 Min Transition Cycle (0-999 sec) 60
 Max Transition Cycle (0-999 sec) 90

Offset # or Ring: 1 2 3 4
 Offsets (0-999 sec) 79 0 0 0
 Act Coord Phase Min Green (0-255) 0 0 0 0

Splits (0-255 sec)

Phase	1	2	3	4	5	6	7	8
Split	15	60	0	15	0	75	0	0

Phase	9	10	11	12	13	14	15	16
Split	0	0	0	0	0	0	0	0

Verify Plan Data

Phase/Function Settings:

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Coordinated Phase	2					6										
Float Force Offs																
Hold to Force Off																
Hi Priority Ped																
Dynamic/Backup																

Options:

Split/Timing in percent? N
 *Permissive Mode (0-4) 0 *0 = Auto
 Enable Transition Permissive Mode? N 1 = Open
 Adjust Non-Coordinated Splits? Y 2 = Manual
 Cycle Once per Cycle Length? Y 3 = Window
 4 = Walk

Active Pages:

Phase Sequence Page (1-12) 1
 Phase Timing Page (1-4) 1
 Phase Control Page (1-4) 1
 OverLap Control Page (1-4) 1
 Input Page (1-4) 1
 Output Page (1-4) 1

Global Manual Permissive windows:

*Applies when "Window" permissive is selected

Manual Permissives by Phase:

*Applies when "Manual" permissive is selected

(0-255 sec)	Vehicle		Pedestrian	
	Start	Stop	Start	Stop
Phase 1	0	0	0	0
Phase 2	0	0	0	0
Phase 3	0	0	0	0
Phase 4	0	0	0	0
Phase 5	0	0	0	0
Phase 6	0	0	0	0
Phase 7	0	0	0	0
Phase 8	0	0	0	0
Phase 9	0	0	0	0
Phase 10	0	0	0	0
Phase 11	0	0	0	0
Phase 12	0	0	0	0
Phase 13	0	0	0	0

- 2-1 - Phase Control
- 2-2 - Dynamic/Backup Control Functions
- 3 - Phase Timing
- 4 - Phase Sequence
- 5 - Inputs
- 6-1 - Output Assignments
- 6-2 - Output Beacon Settings
- 6-3 - Logical I/O Processor
- 7-1 - Vehicle Detector Assignments
- 7-2 - Pedestrian Detector Assignments
- 7-3 - General Vehicle Detector Settings
- 8-1 - Vehicle Ovl, 8-2 - Pedestrian Ovl Settings
- 9 - Coordination
- A-1 - Standard Preemptions
- B - Scheduling
- C - User Profiles
- D-1 - Set Clock, D-2 - General Comm Config
- D-3 - Comm Port Configuration
- D-4 - Logging Controls, D-5 - Conflict Monitor

Coordination - Plan 5

Plan 5

Coordination Plan # 5

Cycle length (0-999 sec) 90
 Min Transition Cycle (0-999 sec) 90
 Max Transition Cycle (0-999 sec) 90

Offset # or Ring: 1 2 3 4
 Offsets (0-999 sec) 36 0 0 0
 Act Coord Phase Min Green (0-255) 0 0 0 0

Splits (0-255 sec)

Phase	1	2	3	4	5	6	7	8
Split	15	55	0	20	0	70	0	0

Phase	9	10	11	12	13	14	15	16
Split	0	0	0	0	0	0	0	0

Verify Plan Data

Phase/Function Settings:

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Coordinated Phase	2					6										
Float Force Offs																
Hold to Force Off																
Hi Priority Ped																
Dynamic/Backup																

Options:

Split/Timing in percent? N
 *Permissive Mode (0-4) 0 *0 = Auto
 Enable Transition Permissive Mode? N 1 = Open
 Adjust Non-Coordinated Splits? Y 2 = Manual
 Cycle Once per Cycle Length? Y 3 = Window
 4 = Walk

Active Pages:

Phase Sequence Page (1-12) 2
 Phase Timing Page (1-4) 1
 Phase Control Page (1-4) 1
 OverLap Control Page (1-4) 1
 Input Page (1-4) 1
 Output Page (1-4) 1

Global Manual Permissive windows:

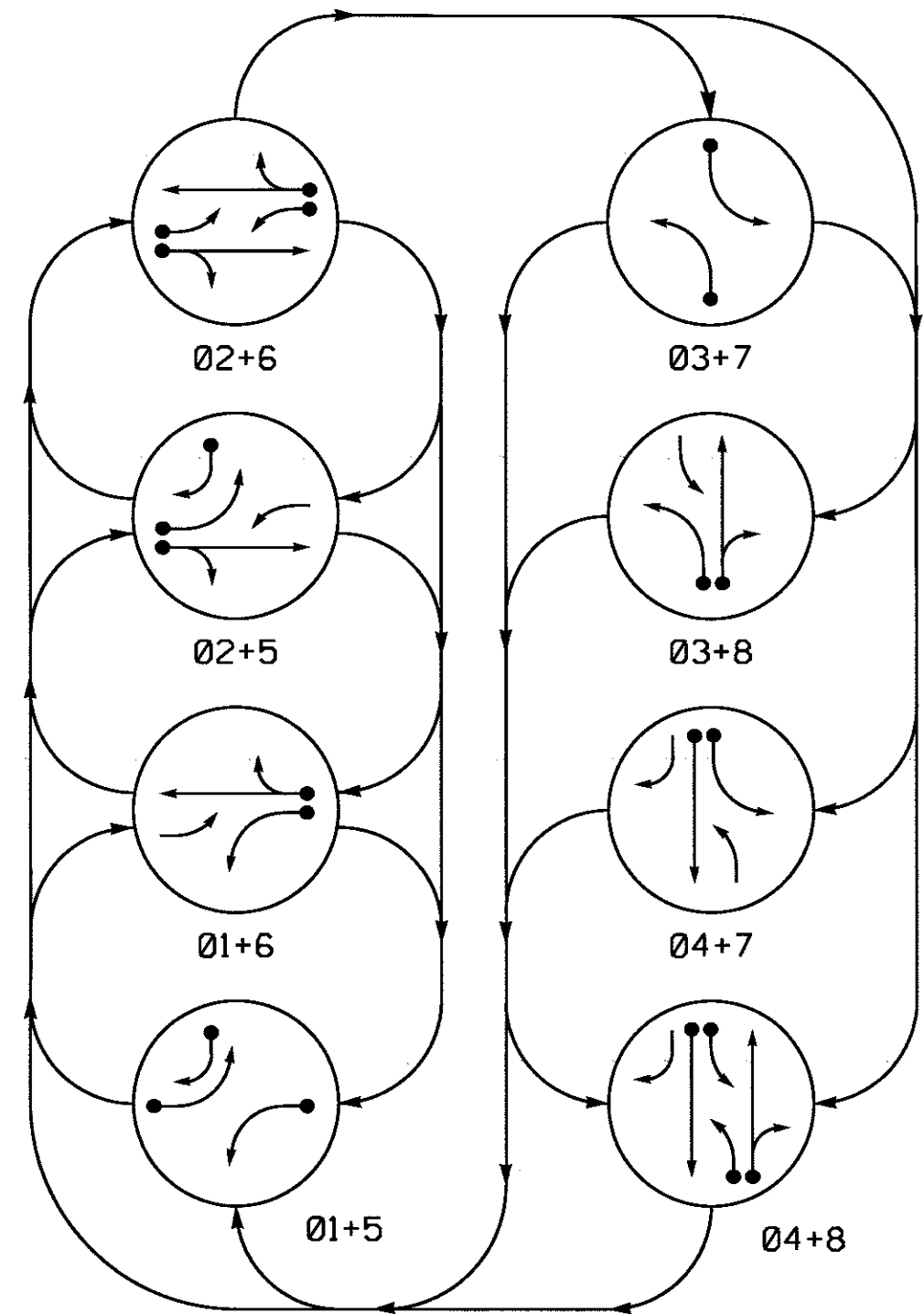
*Applies when "Window" permissive is selected

Manual Permissives by Phase:

*Applies when "Manual" permissive is selected

(0-255 sec)	Vehicle		Pedestrian	
	Start	Stop	Start	Stop
Phase 1	0	0	0	0
Phase 2	0	0	0	0
Phase 3	0	0	0	0
Phase 4	0	0	0	0
Phase 5	0	0	0	0
Phase 6	0	0	0	0
Phase 7	0	0	0	0
Phase 8	0	0	0	0
Phase 9	0	0	0	0
Phase 10	0	0	0	0
Phase 11	0	0	0	0
Phase 12	0	0	0	0
Phase 13	0	0	0	0

PHASING DIAGRAM



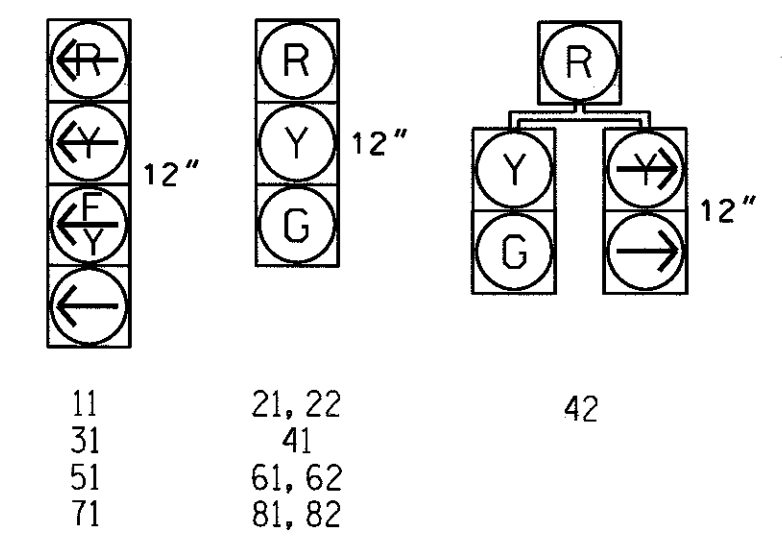
PHASING DIAGRAM DETECTION LEGEND

- DETECTED MOVEMENT
- UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- PEDESTRIAN MOVEMENT

SIGNAL FACE	PHASE							
	01+5	01+6	02+5	02+6	03+7	03+8	04+7	04+8
11	←	←	←	←	←	←	←	←
21, 22	R	R	G	G	R	R	R	R
31	←	←	←	←	←	←	←	←
41	R	R	R	R	R	R	R	R
42	←	←	←	←	←	←	←	←
51	←	←	←	←	←	←	←	←
61, 62	R	R	G	G	R	R	R	R
71	←	←	←	←	←	←	←	←
81, 82	R	R	R	R	R	R	R	R

SIGNAL FACE I.D.

All Heads L.E.D.



OASIS 2070L LOOP & DETECTOR INSTALLATION CHART									
INDUCTIVE LOOPS					DETECTOR PROGRAMMING				
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	URNS	NEW LOOP	PHASE	CALLING	EXTENSION	STRETCH TIME	DELAY TIME
1A	6X60	0	2-4-2	-	1	Y	Y	-	15
2A/S09	6X6	300	EXIST	-	2	Y	Y	-	3
3A	6X60	0	2-4-2	-	3	Y	Y	-	15
4A	6X6	300	EXIST	-	4	-	Y	-	-
4B	6X60	0	2-4-2	-	4	Y	Y	2.0	5
5A	6X60	0	2-4-2	-	5	Y	Y	-	15
5B	6X40	0	2-4-2	Y	5	Y	Y	-	15
6A/S10	6X6	300	EXIST	-	6	Y	Y	-	Y
7A	6X60	0	2-4-2	-	7	Y	Y	-	15
8A	6X6	300	EXIST	-	8	-	Y	-	-
8B	6X60	0	2-4-2	-	8	Y	Y	2.0	5

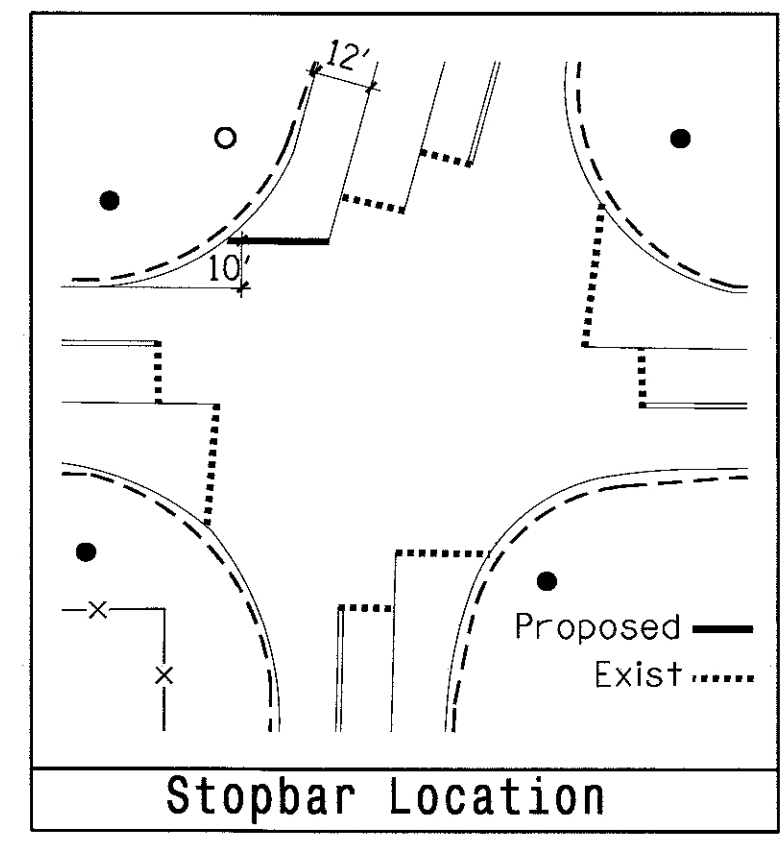
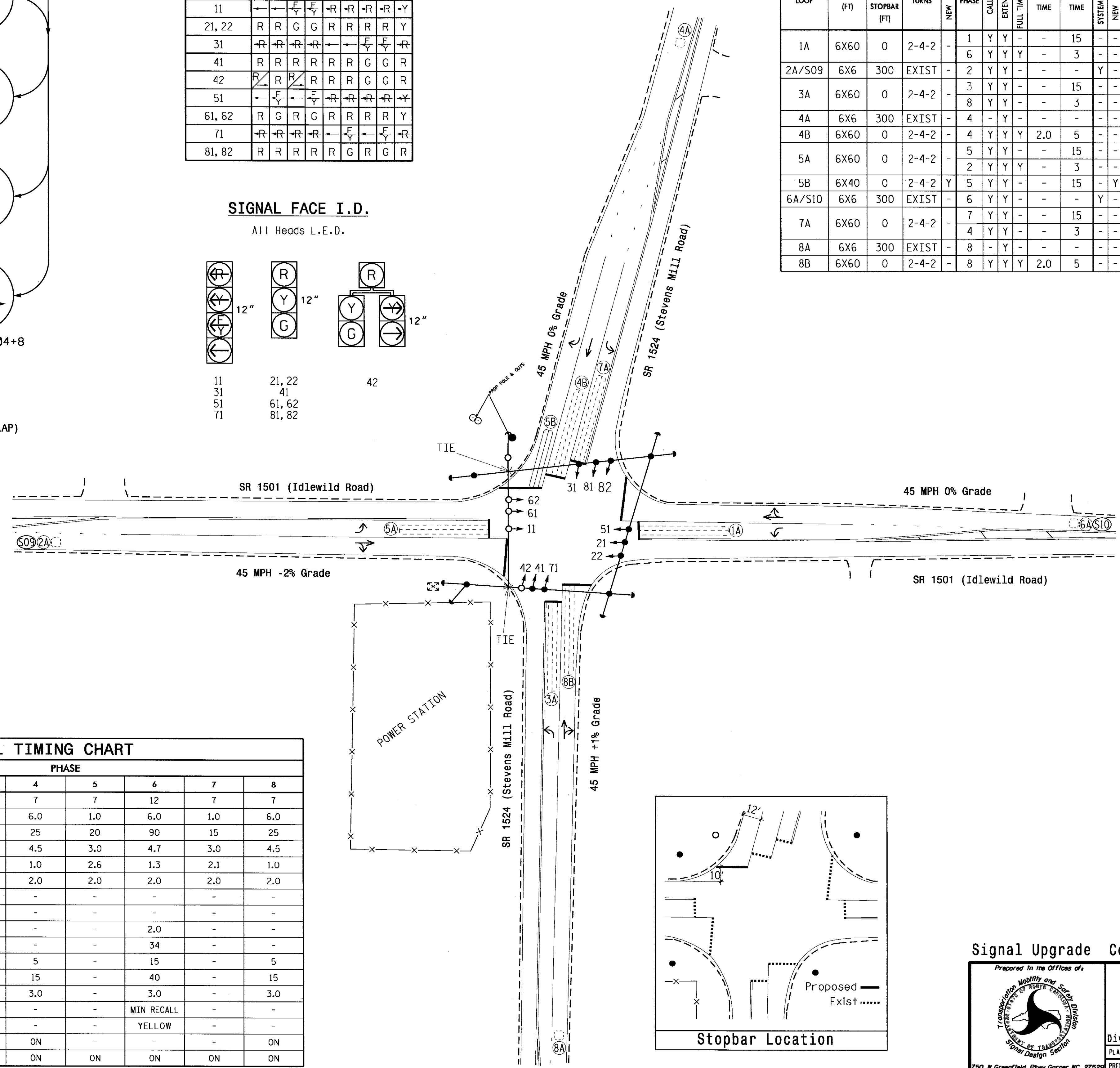
8 Phase
Fully Actuated
SR 3174/1501 (Idlewild Rd.) CLS

NOTES

- Refer to "Roadway Standard Drawings NCDOT" dated January 2012 and "Standard Specifications for Roads and Structures" dated January 2012.
- Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
- Phase 1 and/or phase 5 may be lagged.
- Phase 3 and/or phase 7 may be lagged.
- Set all detector units to presence mode.
- Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.
- Closed loop system data: Controller Asset # 1367.

OASIS 2070L TIMING CHART								
FEATURE	PHASE							
	1	2	3	4	5	6	7	8
Min Green 1 *	7	12	7	7	7	12	7	7
Extension 1 *	1.0	6.0	1.0	6.0	1.0	6.0	1.0	6.0
Max Green 1 *	15	90	20	25	20	90	15	25
Yellow Clearance	3.0	4.7	3.0	4.5	3.0	4.7	3.0	4.5
Red Clearance	2.8	1.3	2.3	1.0	2.6	1.3	2.1	1.0
Red Revert	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk 1 *	-	-	-	-	-	-	-	-
Don't Walk 1	-	-	-	-	-	-	-	-
Seconds Per Actuation *	-	2.0	-	-	-	2.0	-	-
Max Variable Initial *	-	34	-	-	-	34	-	-
Time Before Reduction *	-	15	-	5	-	15	-	5
Time To Reduce *	-	40	-	15	-	40	-	15
Minimum Gap	-	3.0	-	3.0	-	3.0	-	3.0
Recall Mode	-	MIN RECALL	-	-	-	MIN RECALL	-	-
Vehicle Call Memory	-	YELLOW	-	-	-	YELLOW	-	-
Dual Entry	-	-	-	ON	-	-	-	ON
Simultaneous Gap	ON	ON	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.



LEGEND	
PROPOSED	EXISTING

Signal Upgrade Corr. File No. 10-11-201

Seal of the State of North Carolina

SR 1501 (Idlewild Road)
at
SR 1524 (Stevens Mill Road)

Division 10 Union County Stallings

PLAN DATE: December 2012 REVIEWED BY: M. Mahbooba

PREPARED BY: N. D'Aiuto REVIEWED BY:

REVISIONS

SCALE 0 40 1"=40'

SEAL
NORTH CAROLINA
PROFESSIONAL ENGINEER
24393
J. J. WILLIAMS
1/8/13

- 2-1 - Phase Control
- 2-2 - Dynamic/Backup Control Functions
- 3 - Phase Timing
- 4 - Phase Sequence
- 5 - Inputs
- 6-1 - Output Assignments
- 6-2 - Output Beacon Settings
- 6-3 - Logical I/O Processor
- 7-1 - Vehicle Detector Assignments
- 7-2 - Pedestrian Detector Assignments
- 7-3 - General Vehicle Detector Settings
- 8-1 - Vehicle Ovl, 8-2 - Pedestrian Ovl Settings
- 9 - Coordination
- A-1 - Standard Preemptions
- B - Scheduling
- C - User Profiles
- D-1 - Set Clock, D-2 - General Comm Config
- D-3 - Comm Port Configuration
- D-4 - Logging Controls, D-5 - Conflict Monitor

Coordination - Plan 11

Plan 11

Coordination Plan # 11

Cycle length (0-999 sec) 150
 Min Transition Cycle (0-999 sec) 100
 Max Transition Cycle (0-999 sec) 160

Offset # or Ring: 1 2 3 4
 Offsets (0-999 sec) 107 0 0 0
 Act Coord Phase Min Green (0-255) 0 0 0 0

Splits (0-255 sec)

Phase	1	2	3	4	5	6	7	8
Split	15	79	15	41	15	79	15	41
Phase	9	10	11	12	13	14	15	16
Split	0	0	0	0	0	0	0	0

Verify Plan Data

Phase/Function Settings:

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Coordinated Phase	2					6										
Float Force Offs																
Hold to Force Off																
Hi Priority Ped																
Dynamic/Backup																

Options:

Split/Timing in percent? N
 *Permissive Mode (0-4) 0 *0 = Auto
 Enable Transition Permissive Mode? N 1 = Open
 Adjust Non-Coordinated Splits? Y 2 = Manual
 Cycle Once per Cycle Length? Y 3 = Window
 4 = Walk

Active Pages:

Phase Sequence Page (1-12) 2
 Phase Timing Page (1-4) 1
 Phase Control Page (1-4) 1
 OverLap Control Page (1-4) 1
 Input Page (1-4) 1
 Output Page (1-4) 1

Global Manual Permissive windows:

*Applies when "Window" permissive is selected

Manual Permissives by Phase:

*Applies when "Manual" permissive is selected

(0-255 sec)	Vehicle		Pedestrian	
	Start	Stop	Start	Stop
Phase 1	0	0	0	0
Phase 2	0	0	0	0
Phase 3	0	0	0	0
Phase 4	0	0	0	0
Phase 5	0	0	0	0
Phase 6	0	0	0	0
Phase 7	0	0	0	0
Phase 8	0	0	0	0
Phase 9	0	0	0	0
Phase 10	0	0	0	0
Phase 11	0	0	0	0
Phase 12	0	0	0	0
Phase 13	0	0	0	0

- 2-1 - Phase Control
- 2-2 - Dynamic/Backup Control Functions
- 3 - Phase Timing
- 4 - Phase Sequence
- 5 - Inputs
- 6-1 - Output Assignments
- 6-2 - Output Beacon Settings
- 6-3 - Logical I/O Processor
- 7-1 - Vehicle Detector Assignments
- 7-2 - Pedestrian Detector Assignments
- 7-3 - General Vehicle Detector Settings
- 8-1 - Vehicle Ovl, 8-2 - Pedestrian Ovl Settings
- 9 - Coordination
- A-1 - Standard Preemptions
- B - Scheduling
- C - User Profiles
- D-1 - Set Clock, D-2 - General Comm Config
- D-3 - Comm Port Configuration
- D-4 - Logging Controls, D-5 - Conflict Monitor

Coordination - Plan 5

Plan 5

Coordination Plan # 5

Cycle length (0-999 sec) 180
 Min Transition Cycle (0-999 sec) 160
 Max Transition Cycle (0-999 sec) 240

Offset # or Ring: 1 2 3 4
 Offsets (0-999 sec) 0 0 0 0
 Act Coord Phase Min Green (0-255) 0 0 0 0

Splits (0-255 sec)

Phase	1	2	3	4	5	6	7	8
Split	20	120	15	25	20	120	15	25
Phase	9	10	11	12	13	14	15	16
Split	0	0	0	0	0	0	0	0

Verify Plan Data

Phase/Function Settings:

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Coordinated Phase	2					6										
Float Force Offs																
Hold to Force Off																
Hi Priority Ped																
Dynamic/Backup																

Options:

Split/Timing in percent? N
 *Permissive Mode (0-4) 0 *0 = Auto
 Enable Transition Permissive Mode? N 1 = Open
 Adjust Non-Coordinated Splits? Y 2 = Manual
 Cycle Once per Cycle Length? Y 3 = Window
 4 = Walk

Active Pages:

Phase Sequence Page (1-12) 1
 Phase Timing Page (1-4) 1
 Phase Control Page (1-4) 1
 OverLap Control Page (1-4) 1
 Input Page (1-4) 1
 Output Page (1-4) 1

Global Manual Permissive windows:

*Applies when "Window" permissive is selected

Manual Permissives by Phase:

*Applies when "Manual" permissive is selected

(0-255 sec)	Vehicle		Pedestrian	
	Start	Stop	Start	Stop
Phase 1	0	0	0	0
Phase 2	0	0	0	0
Phase 3	0	0	0	0
Phase 4	0	0	0	0
Phase 5	0	0	0	0
Phase 6	0	0	0	0
Phase 7	0	0	0	0
Phase 8	0	0	0	0
Phase 9	0	0	0	0
Phase 10	0	0	0	0
Phase 11	0	0	0	0
Phase 12	0	0	0	0
Phase 13	0	0	0	0

APPENDIX D

Adjacent Development Information

TRAFFIC IMPACT STUDY

FOR THE

Idlewild Road Mixed Use

LOCATED
IN
MATTHEWS AND STALLINGS, NORTH CAROLINA

Prepared For:
North 44 Property Management, Inc.
7800 Kennedy Road, Suite 404
Markham, Ontario L3R 2 C7

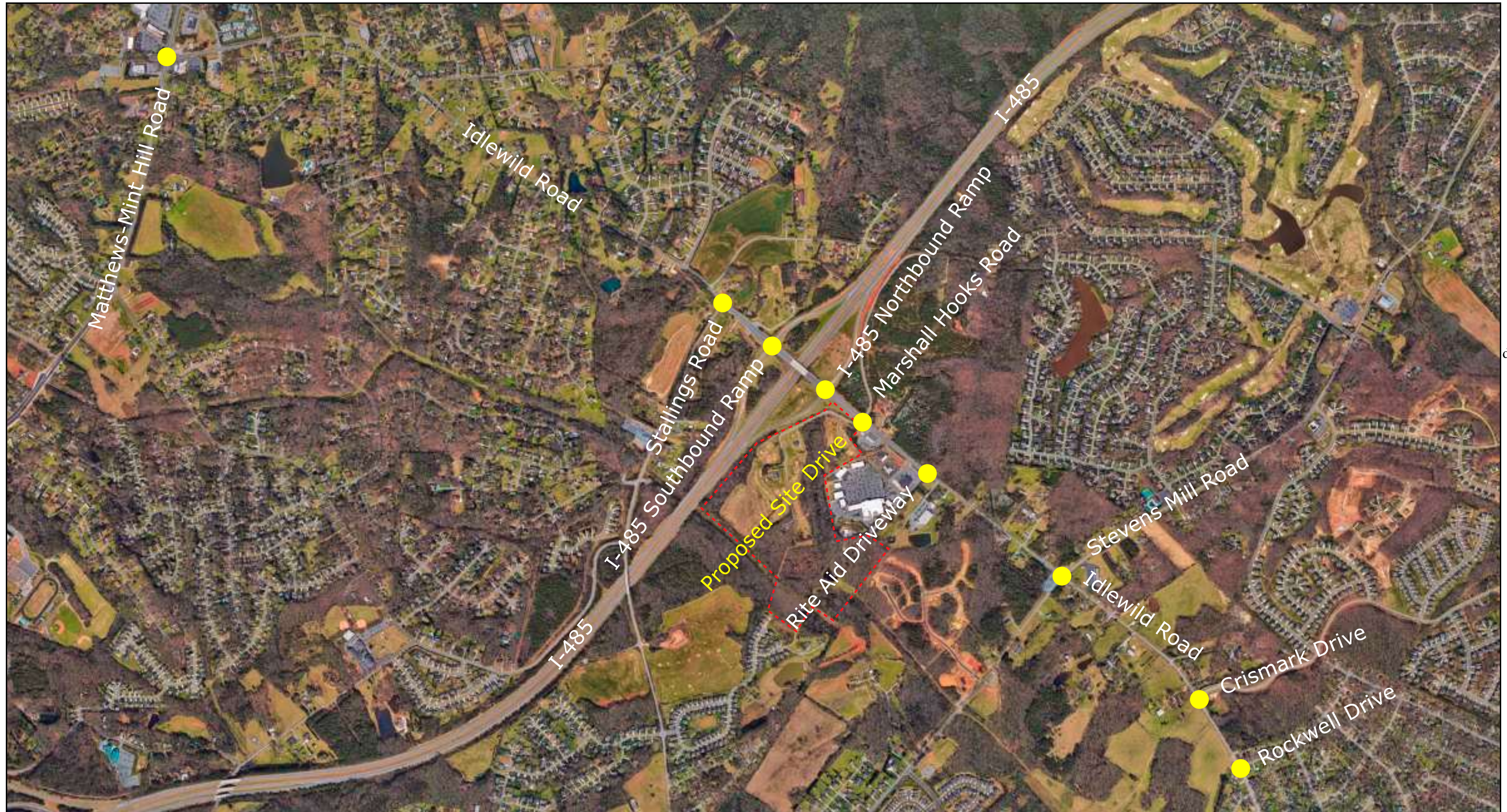
Prepared By:
Ramey Kemp & Associates, Inc.
8307 University Executive Park Drive, Suite 260
Charlotte, NC 28262
License #C-0910

April, 2019
RKA Project #18181.01



**TABLE 3
PROPOSED SITE FULL BUILD TRIP GENERATION**

LAND USE	SIZE	DAILY TRIPS (VPD)	PEAK HOUR TRIPS (VPH)			
			AM		PM	
			ENTER	EXIT	ENTER	EXIT
Multifamily-low (220)	248 DU	1,836	26	87	84	49
Internal Capture Trips			2	7	1	4
Multifamily-mid (221)	270 DU	1,470	24	67	70	45
Internal Capture Trips			1	6	1	4
Hotel (310)	120 Rooms	928	32	23	33	31
Internal Capture Trips			1	2	3	3
Medical Office (720)	20,000 SF	696	44	12	19	50
Internal Capture Trips			4	1	1	0
Shopping Center (820)	10,000 SF	1,258	97	60	48	51
Internal Capture Trips			9	6	4	5
Passy-By Trips			-	-	16	16
Sit-Down Restaurant (932)	6,000 SF	674	48	36	54	50
Internal Capture Trips			4	3	5	5
Pass-By Trips			-	-	21	21
Total Trips		6,862	271	285	308	276
Total Internal Capture Trips		-	21	25	15	21
Total Pass-By Trips		-	-	-	23	23
Total New External Trips		6,862	250	260	256	218



Idlewild Road Matthews, NC

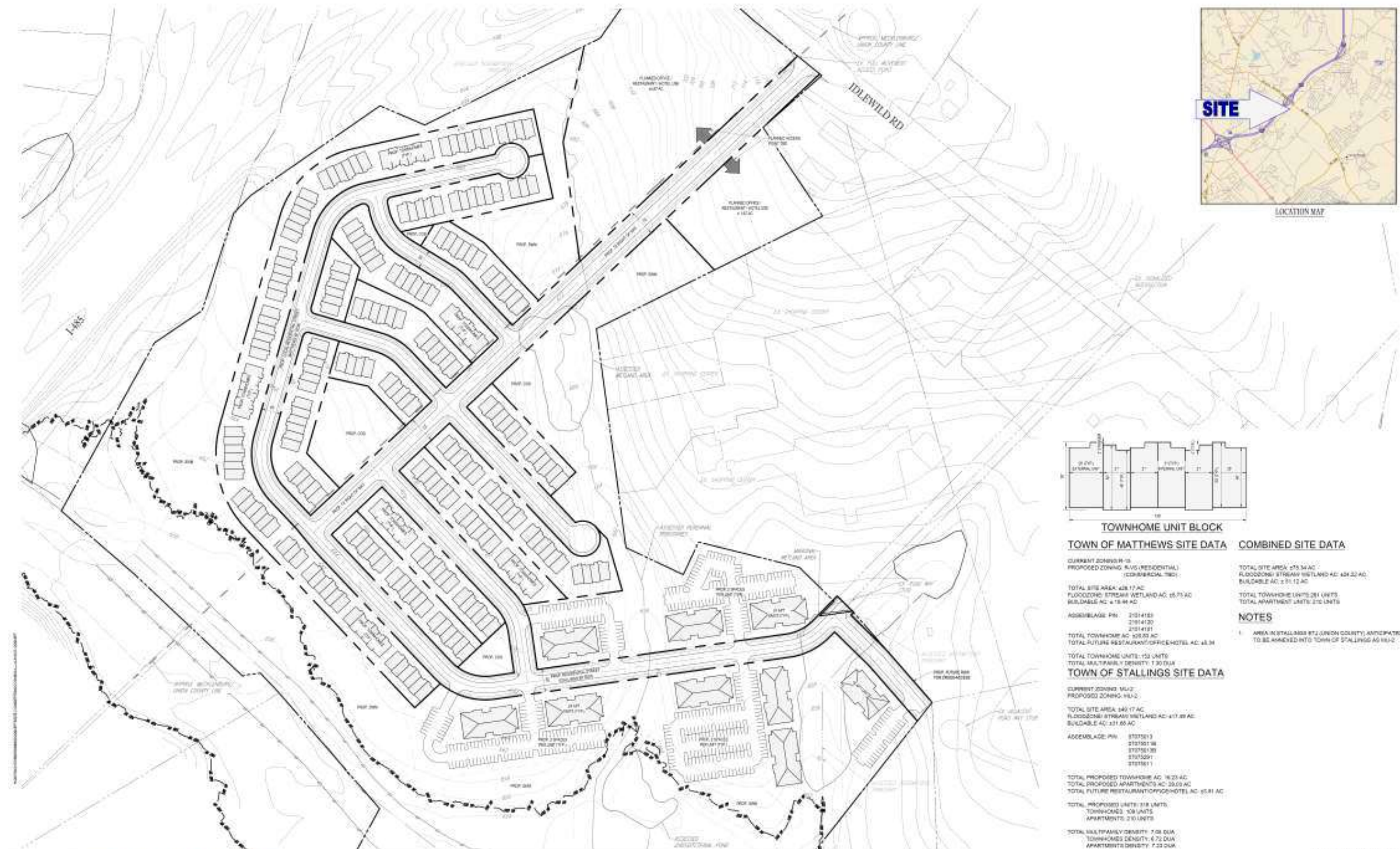
Site Location Map

Scale: Not to Scale

Figure 1



LEGEND	
	Proposed Site Location
	Study Intersection



TOWN OF MATTHEWS SITE DATA

CURRENT ZONING: R-10 (RESIDENTIAL)
PROPOSED ZONING: (COMMERCIAL TRC)
TOTAL SITE AREA: 428.17 AC
FLOODZONE/STREAM/WETLAND AC: 15.75 AC
BUILDABLE AC: 412.42 AC
ASSEMBLY: PH: 21014151
21014152
21014153
TOTAL TOWNHOME AC: 108.00 AC
TOTAL FUTURE RESTAURANT/OFFICE/HOTEL AC: 48.34
TOTAL TOWNHOME UNITS: 152 UNITS
TOTAL MULTIFAMILY DENSITY: 1.30 DUA

TOWN OF STALLINGS SITE DATA

CURRENT ZONING: MU-2
PROPOSED ZONING: MU-2
TOTAL SITE AREA: 140.17 AC
FLOODZONE/STREAM/WETLAND AC: 417.89 AC
BUILDABLE AC: 131.80 AC
ASSEMBLY: PH: 21015013
21015014
21015015
21015016
21015017
TOTAL PROPOSED TOWNHOME AC: 16.25 AC
TOTAL PROPOSED APARTMENTS AC: 20.00 AC
TOTAL FUTURE RESTAURANT/OFFICE/HOTEL AC: 45.81 AC
TOTAL PROPOSED UNITS: 318 UNITS
TOWNHOME: 108 UNITS
APARTMENTS: 210 UNITS
TOTAL MULTIFAMILY DENSITY: 7.08 DUA
TOWNHOME DENSITY: 6.72 DUA
APARTMENTS DENSITY: 7.33 DUA

COMBINED SITE DATA

TOTAL SITE AREA: 578.34 AC
FLOODZONE/STREAM/WETLAND AC: 434.22 AC
BUILDABLE AC: 544.22 AC
TOTAL TOWNHOME UNITS: 261 UNITS
TOTAL APARTMENT UNITS: 210 UNITS

NOTES

1. AREA IN STALLINGS RTJ (JUNIOR COUNTY) ANTICIPATED TO BE ANNEXED INTO TOWN OF STALLINGS AS MU-2



IDLEWILD RESIDENTIAL DEVELOPMENT

CONCEPT A1
MATTHEWS/STALLINGS, NC



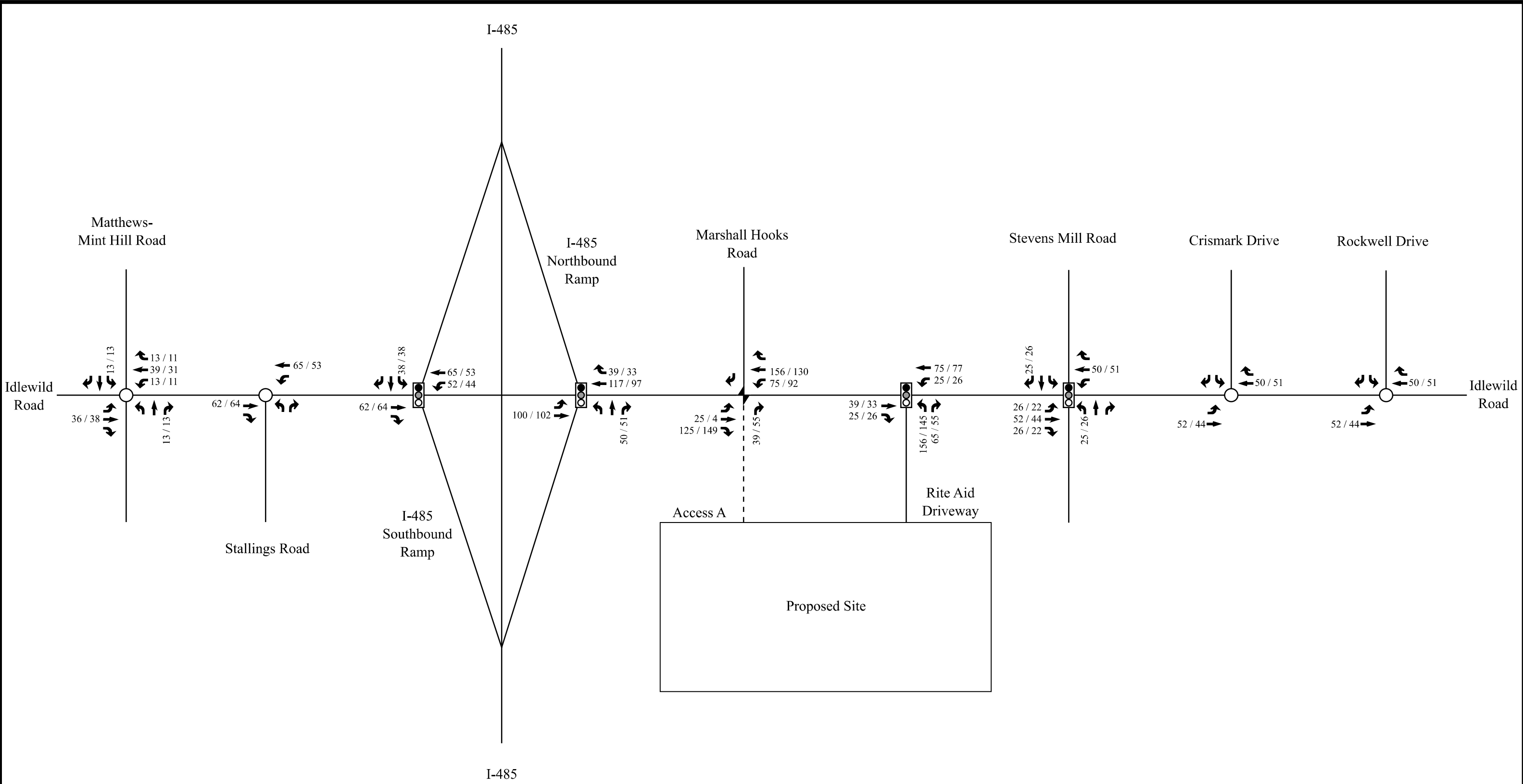
Idlewild Road
Matthews, NC

Preliminary Site Plan

Scale: Not to Scale

Figure 2





LEGEND

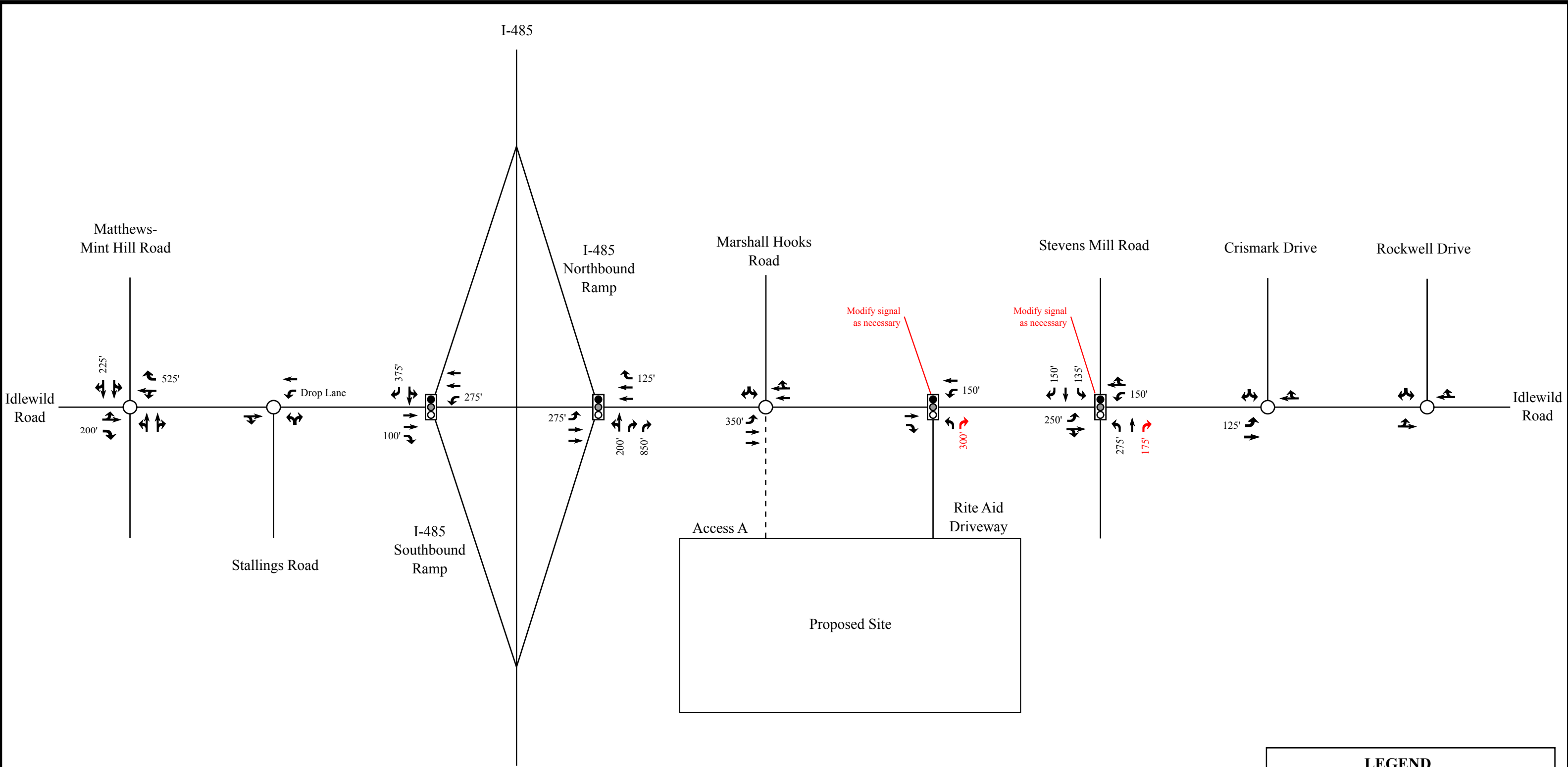
Unsignalized Intersection

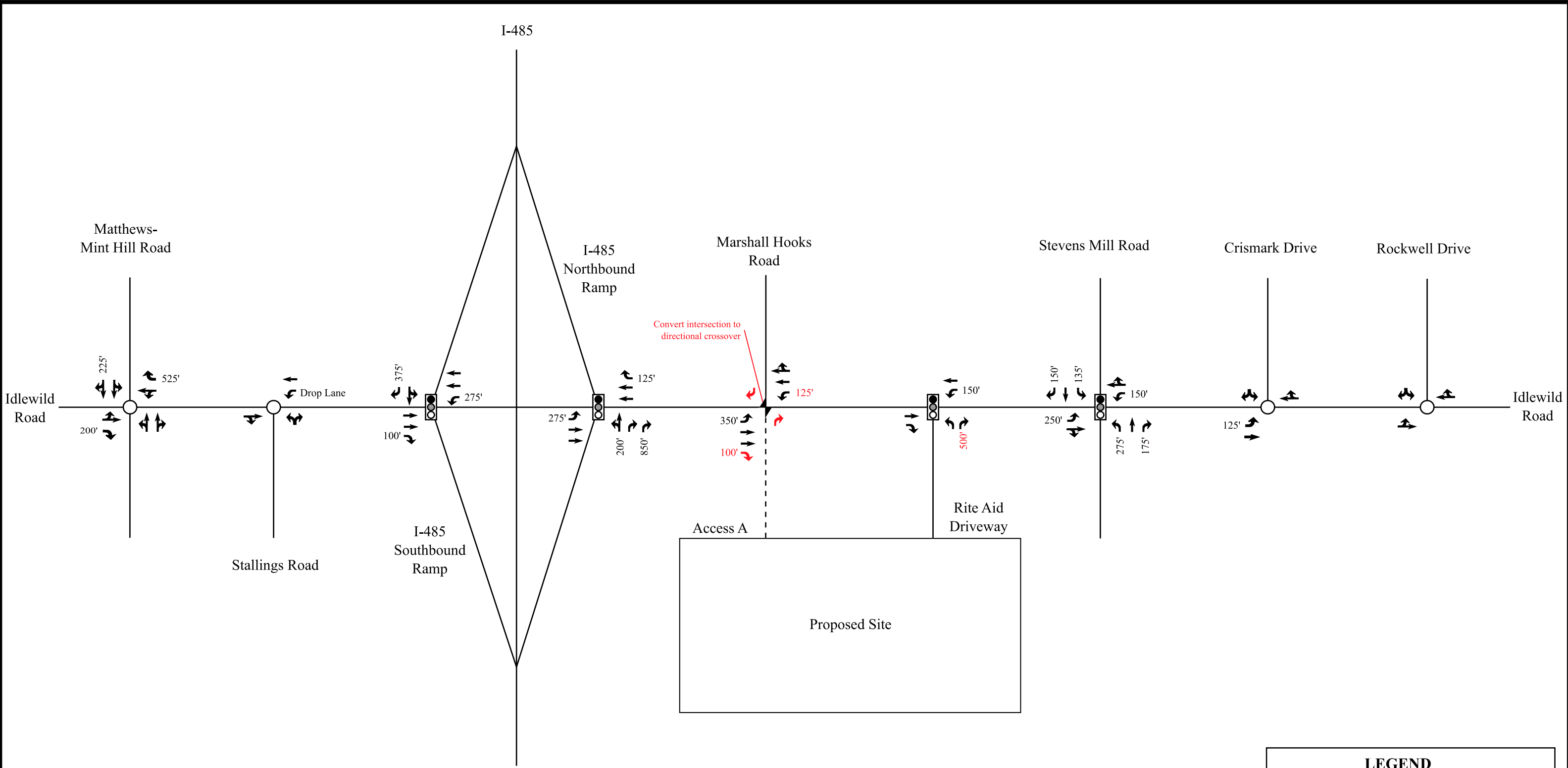
Signalized Intersection

Directional Crossover

X / Y → AM / PM Peak Hour Traffic Volume



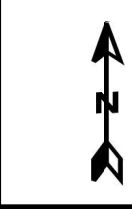




Idlewild Road
Matthews, NC

2020 Build
Recommended
Lane Configurations

Scale: Not to Scale	Figure 19
---------------------	-----------



LEGEND

- Unsignalized Intersection
- ◫ Signalized Intersection
- ◀ Directional Crossover
- Existing Lane
- Improvement By Developer
- X' Storage (In Feet)



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

JAMES H. TROGDON, III
SECRETARY

May 7, 2019

**Idlewild Road Mixed Use
Matthews and Stallings, NC**

Traffic Impact Analysis (TIA) Review Report

Congestion Management Section

TIA Project: SC-2018-123R1
Division: 10
County: Union / Mecklenburg
Description: Southeast Quadrant of SR-3174/SR-1501
(Idlewild Road) at I-485



Michael Reese
7 MAY 2019

Michael P. Reese, PE, CPM
Congestion Management Regional Engineer

Trevor Darnell
Congestion Management Design Engineer

MAILING ADDRESS:
TRANSPORTATION MOBILITY AND SAFETY DIVISION
1561 MAIL SERVICE CENTER
RALEIGH NC 27699-1561

TELEPHONE: 919-814-5000
FAX: 919-771-2745

WEBSITE: WWW.NCDOT.ORG

LOCATION:
750 NORTH GREENFIELD PARKWAY
GARNER NC 27529



Idlewild Road Mixed Use TIA

SC-2018-123R1

Union / Mecklenburg County

Per your request, the Congestion Management Section (CMS) of the Transportation Mobility and Safety Division has completed a review of the subject site. The comments and recommendations contained in this review are based on data for background conditions presented in the sealed Traffic Impact Analysis (TIA) and are subject to the approval of the local District Engineer's Office and appropriate local authorities.

TIP project U-4913 is in the immediate vicinity of this proposed development. This project is proposing to widen SR-3174/SR-1501 (Idlewild Rd). The first TIA submitted for the Idlewild Rd Mixed Use Development, sealed 8/27/2018, did not include U-4913 lane geometry in the analysis due to difference in build-out years. The new TIA, sealed 4/03/2019, included a 2040 design year analysis for U-4913 to help determine site access types. It should be noted that the final geometric design for U-4913 is not finalized.

Key Dates

First TIA for Development Sealed	8/27/2018
CMS First TIA Review Report	10/04/2018
New TIA for Development Sealed and Received	4/03/2019
Date of Preliminary Review Accepting New TIA for Review	4/30/2019
Site Plan in TIA	8/02/2018

Proposed Development

According to the TIA, the proposed Idlewild Road Mixed Use Development is to be located in the southeast quadrant of SR-3174/SR-1501 (Idlewild Road) at I-485 in Matthews and Stallings, NC. The TIA states Phase 1 of the development is to be constructed by 2020 and is to consist of the following:

Land Use	Land Use Code	Size
Multifamily- Low Rise	220	127 Dwelling Units
Multifamily- Mid Rise	221	270 Dwelling Units

Trip Generation - Unadjusted Volumes During a Typical Weekday

Based on appropriate methodology outlined in the *ITE Trip Generation Manual 10th Edition*

	IN	OUT	TOTAL
AM Peak Hour	38	113	151
PM Peak Hour	116	72	188
Daily Trips			2390



The TIA states the Full Build of the development is to be constructed by 2020 and is to consist of the following:

Land Use	Land Use Code	Size
Multifamily- Low Rise	220	248 Dwelling Units
Multifamily- Mid Rise	221	270 Dwelling Units
Hotel	310	120 Rooms
Medical Office	720	20,000 SF
Shopping Center	820	10,0000 SF
Sit-Down Restaurant	932	6,000 SF

Trip Generation - Unadjusted Volumes During a Typical Weekday

Based on appropriate methodology outlined in the *ITE Trip Generation Manual 10th Edition*

	IN	OUT	TOTAL
AM Peak Hour	271	285	556
PM Peak Hour	308	276	584
Daily Trips			6862

Requested Access Points

Driveway	Public Roadway	Access Type
1	SR-3174/SR-1501 (Idlewild Rd)	RIRO/Left-Over (Full Build Only)
2	SR-3174/SR-1501 (Idlewild Rd)	Conventional Full-Movement



Study Area

Study Area and Proposed Site Location - ↑ N



TIP Projects in Study Area

Project	Description	ROW Year	Construction Year
U-4913	Widen SR-3174/SR-1501 (Idlewild Rd) from SR-3175 (Stallings Rd) to SR-1524 (Stevens Mill Rd)	2020	2022

CRTPO Comprehensive Transportation Plan

Route	Facility Vision
SR-3174/SR-1501 (Idlewild Rd)	Boulevard – Existing Needs Improvement
I-485	Freeway – Existing Needs Improvement
SR-1524 (Stevens Mill Rd)	Boulevard – Existing Needs Improvement



TIA Comments

The following items vary from our recommended practices:

- For left-turn signal phases, protected/permitted phasing was used in the analysis for one or more intersections.

General Reference

For reference to various documents applicable to this review please reference the following links: <https://connect.ncdot.gov/resources/safety/Pages/Congestion-Management.aspx> and https://connect.ncdot.gov/resources/safety/Teppl/Pages/Teppl-Topic.aspx?Topic_List=C37.

Once the driveway permit has been approved and issued, a copy of the final driveway permit requirements should be forwarded to this office. If we can provide further assistance, please contact the Congestion Management Section at (919) 814-5000.

Recommendations

Legend

- ❶ Improvement by Developer. Congestion Management concurs with recommendation.
- ❷ Improvement by Developer. Additional or modified recommendation.
- ❸ Improvement by TIP Project U-4913. If these improvements are not in place by buildout of the site as assumed in the TIA, the Developer may be responsible for them.

Phase 1 2020

SR-1501 (Idlewild Rd) at Proposed Site Access B (Rite Aid Driveway)

Existing Signalized Intersection. Poor LOS/excessive queuing is anticipated to occur after recommended developer mitigation.

- **NB Proposed Site Access B (Existing Rite Aid Driveway)**
 - o Three-lane cross-section: one ingress, two egress ❶
 - o Egress: Left-Turn Lane (Restripe Existing Left/Right Turn Lane), 300' Right-Turn Lane ❶
 - o Maximize Internal Stem Length ❷
- **WB SR-1501 (Idlewild Rd)**
 - o Restripe pavement to extend existing left-turn lane to 300' ❷



SR-1501 (Idlewild Rd) at SR-1524 (Stevens Mill Rd)

Existing Signalized Intersection. Poor LOS/excessive queuing is anticipated to persist after recommended developer mitigation.

- **NB SR-1524 (Stevens Mill Rd)**
 - o 175' Right-Turn Lane ❶

Full Build 2020

SR-3174/SR-1501 (Idlewild Rd) at Proposed Site Access A (Existing SR-5230) /SR-5231 (Marshall Hooks Rd)

Existing Stop-Controlled Intersection. Proposed Site Access would replace the existing SR-5230 (Boyd Funderburk Dr). Development would convert intersection from full movement to directional crossover. ❶

- **NB Proposed Site Access A**
 - o Two-lane cross-section: one ingress, one egress ❶
 - o Egress: Right-Turn Lane Only ❶
 - o 100' Internal Protected Stem ❷
- **SB SR-5231 (Marshall Hooks Rd)**
 - o Convert Existing Full Movement Lane to Right-Turn Only Lane ❶
- **EB SR-3174/SR-1501 (Idlewild Rd)**
 - o 100' Right-Turn Lane ❶
- **WB SR-3174/SR-1501 (Idlewild Rd)**
 - o Extend Left-Turn Lane to Directional Crossover with 125' ❶

SR-1501 (Idlewild Rd) at Proposed Site Access B (Rite Aid Driveway)

Existing Signalized Intersection. Poor LOS/excessive queuing is anticipated to occur after recommended developer mitigation.

- **NB Proposed Site Access B (Existing Rite Aid Driveway)**
 - o Extend right-turn lane to 500' ❶



Lane Geometry Under U-4913

This document is a review of the operations of the proposed access plan and should not be considered an endorsement from Congestion Management for the TIA presented U-4913 lane geometry and/or traffic operations. If final TIP design differs from the presented design in the TIA, then recommendations for site traffic may not be adequate and would need reanalysis.

SR-3174/SR-1501 (Idlewild Rd) at Proposed Site Access A / SR-5231 (Marshall Hooks Rd)

Signalized intersection under U-4913. ③

- **NB Proposed Site Access A**
 - Right-Turn Only Lane
- **SB SR-5231 (Marshall Hooks Rd)**
 - Right-Turn Only Lane
- **EB SR-3174/SR-1501 (Idlewild Rd)**
 - 400' Left-Turn Lane ③
 - Three Through Lanes
 - One of Three is a Shared Through/Right Lane ③
- **WB SR-3174/SR-1501 (Idlewild Rd)**
 - 300' Left-Turn Lane ③
 - Three Through Lanes
 - One of Three is a Shared Through/Right Lane ③

SR-1501 (Idlewild Rd) at Proposed Site Access B (Rite Aid Driveway)

Existing Signalized Intersection.

- **NB Proposed Site Access B (Existing Rite Aid Driveway)**
 - U-4913 Proposed Lane Geometry:
 - 350' Dual Left-Turn Lanes ③
 - One Through Lane ③
 - 250' Right-Turn Lane ③
 - Developer Mitigation to TIP Design
 - Extend Right-Turn Lane to 300' ❶
 - Extend Dual Left-Turn Lanes to 400' (Each) ❶
- **SB Proposed Roadway** - This leg does not currently exist but is being shown under U-4913 conditions. If this roadway is not built, intersection lane geometry would be altered, and reanalysis would need to be completed.
 - Dual 400' (Each) Left-Turn Lanes



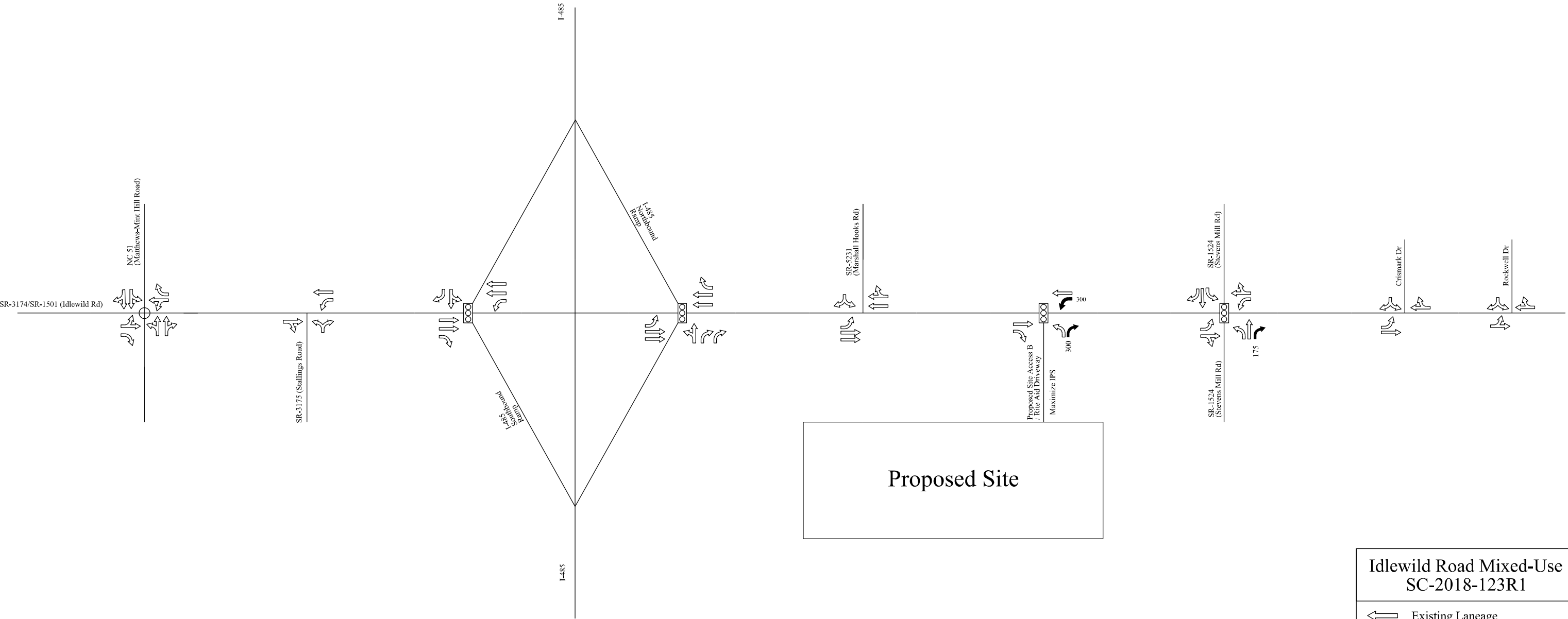
- o One Through Lane
- o 500' Right-Turn Lane
- **EB SR-1501 (Idlewild Rd)**
 - o Dual 500' (Each) Left-Turn Lanes ③
 - o Three Through Lanes
 - One of Three is a Shared Through/Right Lane ③
- **WB SR-1501 (Idlewild Rd)**
 - o 300' Left-Turn Lane ③
 - o Three Through Lanes
 - One of Three is a Shared Through/Right Lane ③

SR-1501 (Idlewild Rd) at SR-1524 (Stevens Mill Rd)

Existing Signalized Intersection.

- **NB SR-1524 (Stevens Mill Rd)**
 - o U-4913 Proposed Lane Geometry:
 - 300' Left-Turn Lane ③
 - Two Through Lanes ③
 - 200' Right-Turn Lane ③
 - o Developer Mitigation to TIP Design
 - Construct Dual 225' (Each) Left-Turn Lanes ①
- **SB SR-1524 (Stevens Mill Rd)**
 - o Dual 500' Left-Turn Lanes ③
 - o Two Through Lanes ③
 - o 500' Right-Turn Lane ③
- **EB SR-1501 (Idlewild Rd)**
 - o Dual 500' (Each) Left-Turn Lanes ③
 - o Three Through Lanes ③
 - o 500' Right-Turn Lane ③
- **WB SR-1501 (Idlewild Rd)**
 - o U-4913 Proposed Lane Geometry:
 - 400' Left-Turn Lane ③
 - Three Through Lanes ③
 - 400' Right-Turn Lane ③
 - o Developer Mitigation to TIP Design
 - Extend Left-Turn Lane to 425' ①

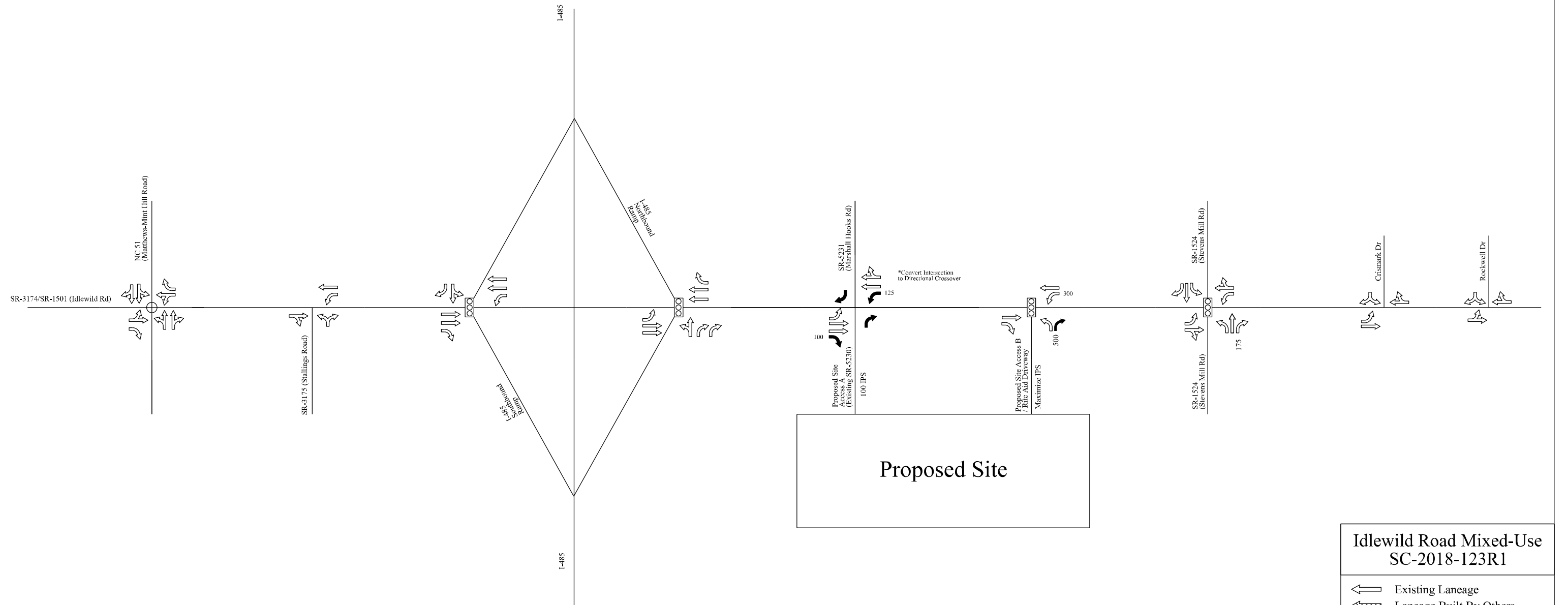
PHASE 1 2020



Idlewild Road Mixed-Use
SC-2018-123R1

- Existing Laneage
- Laneage Built By Others
- Recommended Laneage
- Existing Signal
- Signal Proposed By Others
- Proposed Signal
- Storage
- Distance Between Intersections
- Internal Protected Stem
- All Distances in Feet
- Drawing Not to Scale
- Not for Construction

Full Build 2020



Proposed Site

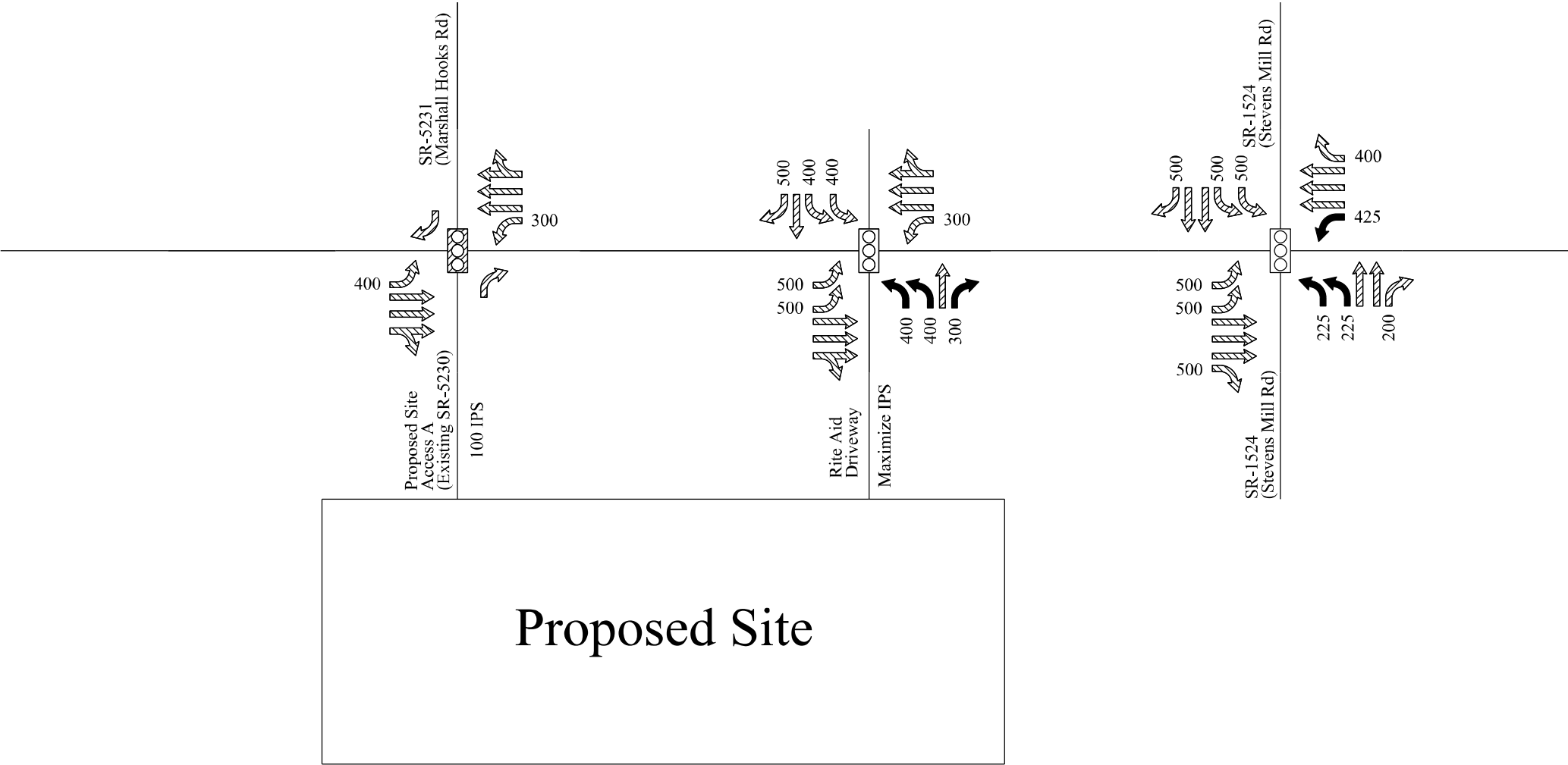
Idlewild Road Mixed-Use
SC-2018-123R1

-  Existing Laneage
 Laneage Built By Others
 Recommended Laneage
 Existing Signal
 Signal Proposed By Others
 Proposed Signal
 XXX Storage
 <XXX> Distance Between Intersections
 IPS Internal Protected Stem
 All Distances in Feet
 Drawing Not to Scale
 Not for Construction



td 5/7/19

Lane Geometry Under U-4913



Idlewild Road Mixed-Use
SC-2018-123R1

Existing Laneage

Laneage Built By Others

Recommended Laneage

Existing Signal

Signal Proposed By Others

Proposed Signal

Storage

Distance Between Intersections

Internal Protected Stem

All Distances in Feet
Drawing Not to Scale
Not for Construction



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

December 2020
018273010



Laura N. Reid
12/10/20

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

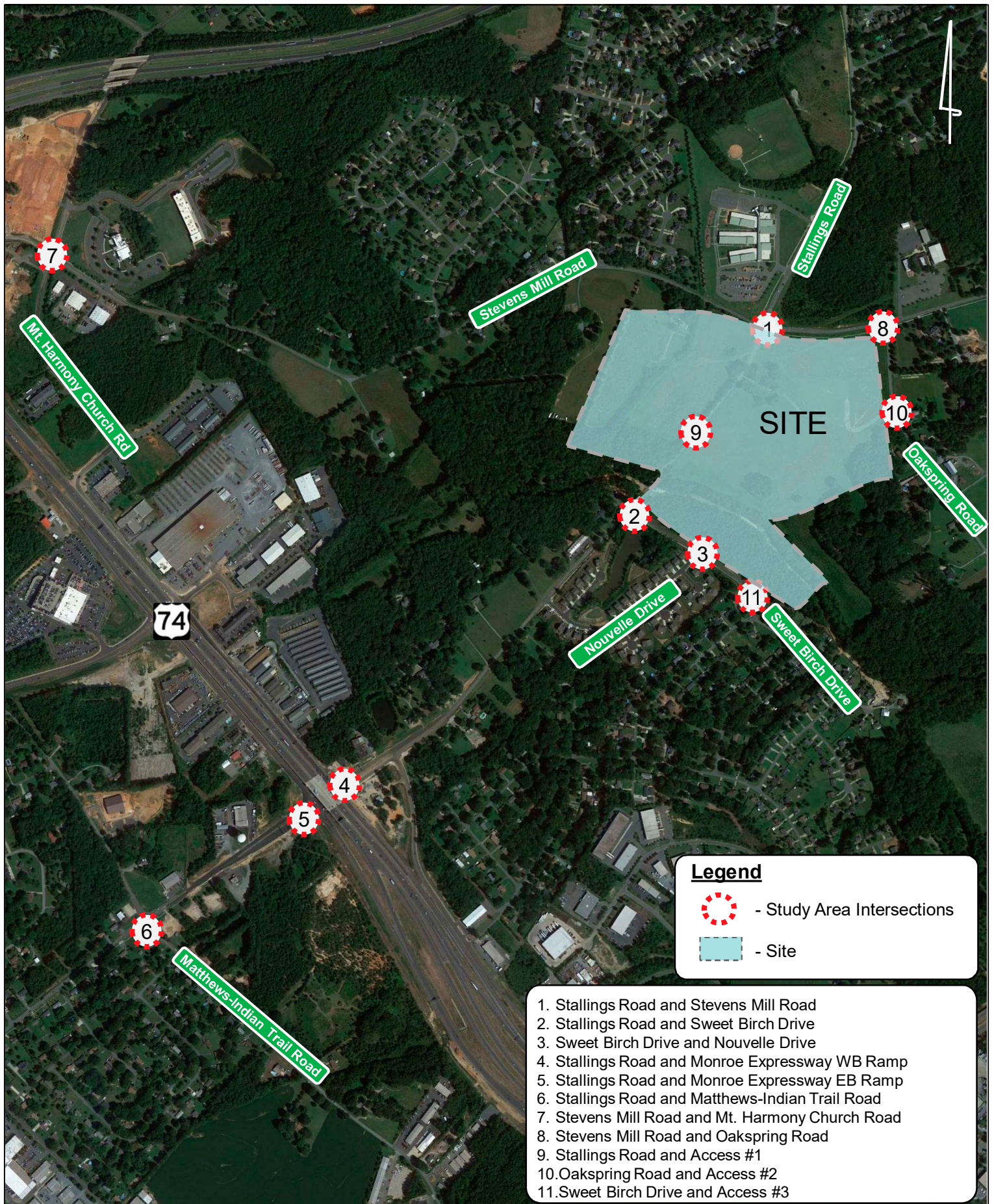
5.2 TRAFFIC GENERATION

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.

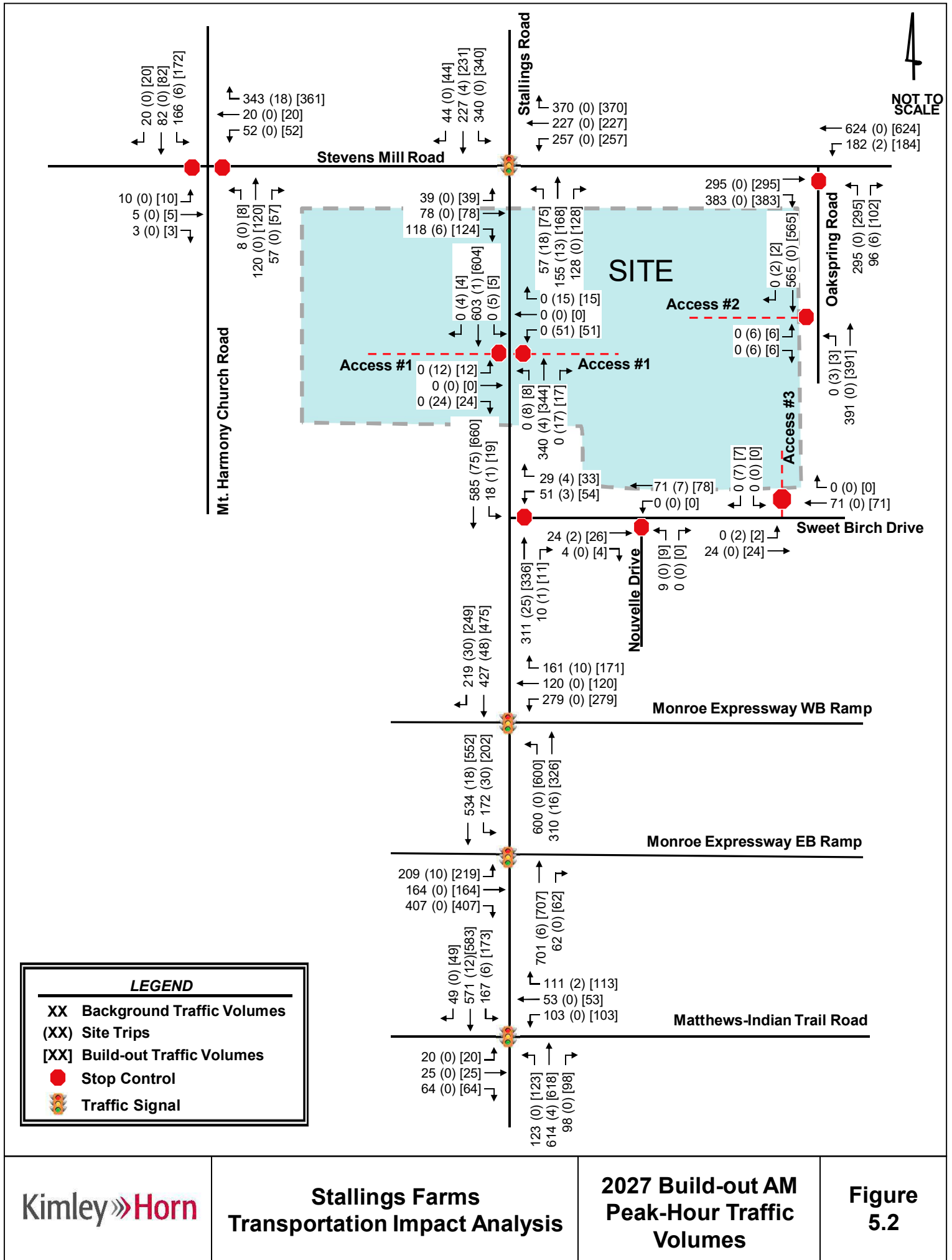
Based on the most recent site plan, provided by the Applicant, the proposed development is envisioned to included up to 222 single family homes.

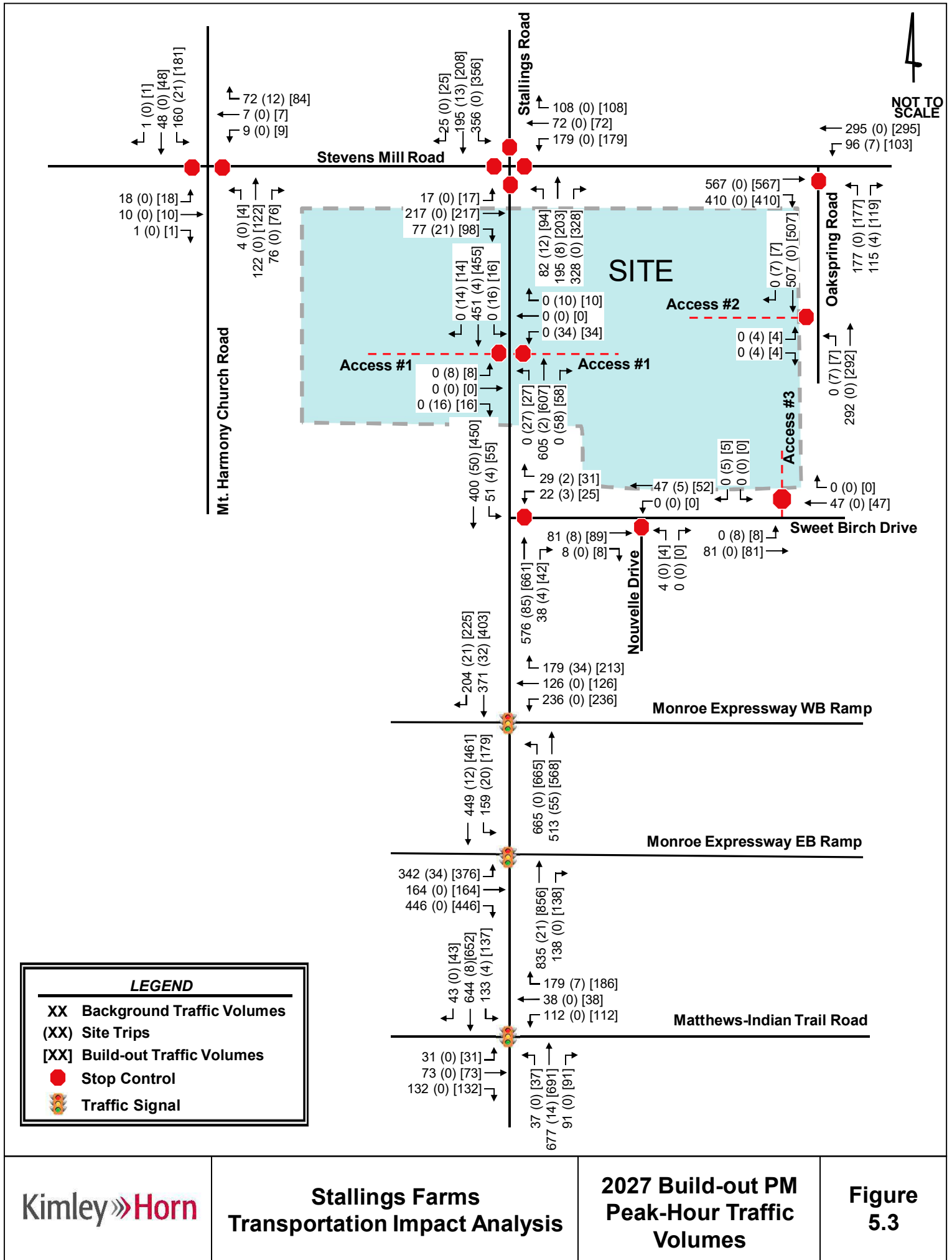
Table 5.1 summarizes the projected trip generation for the proposed development. During a typical weekday, the proposed development has the potential to generate 162 and 218 net new external trips during the AM and PM peak hours, respectively.

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
Net New External Trips		2,166	162	41	121	218	137	81



[illegible]





TRAFFIC IMPACT ANALYSIS

FOR THE

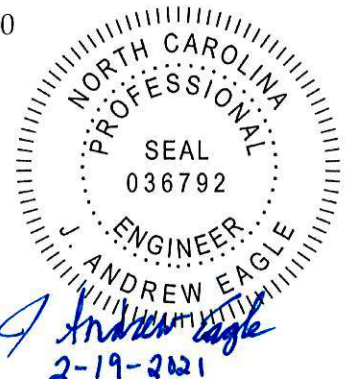
Stinson Village

LOCATED
IN
STALLINGS, NORTH CAROLINA

Prepared For:
Town of Stallings
315 Stallings Road
Stallings, NC 28104

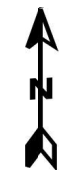
Prepared By:
Ramey Kemp & Associates, Inc.
8210 University Executive Park Drive, Suite 220
Charlotte, NC 28262
License #C-0910

February 2021
RKA Project #19413



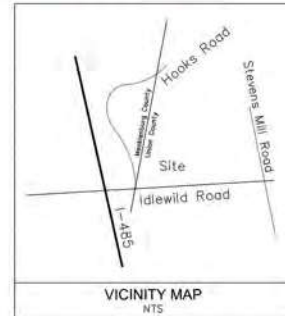
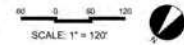
**TABLE 5
PROPOSED SITE FULL BUILD (WITH GAS STATION) TRIP GENERATION**

LAND USE	SIZE	DAILY TRIPS (VPD)	PEAK HOUR TRIPS (VPH)			
			AM		PM	
			ENTER	EXIT	ENTER	EXIT
Multifamily-low rise (220)	203 DU	1,494	21	72	70	41
Internal Capture Trips			1	16	2	1
Multifamily-high rise (222)	408 DU	1,820	30	97	90	57
Internal Capture Trips			2	21	3	1
Day Care Center (565)	4,000 SF	192	23	21	21	23
Internal Capture Trips			0	0	0	0
Drive-In Bank (912)	4,000 SF	402	22	16	41	41
Internal Capture Trips			0	0	0	0
Pass-By Trips			6	6	15	15
High-Turnover Restaurant (932)	5,000 SF	562	40	30	45	42
Internal Capture Trips			4	0	0	1
Pass-By Trips			-	-	19	19
Fast-Food Rest. with Drive-Thru (934)	3,500 SF	1,650	72	69	59	55
Internal Capture Trips			7	0	0	1
Pass-By Trips			33	33	29	29
Fast-Food Rest. with Drive-Thru (934)	4,500 SF	2,120	92	89	76	71
Internal Capture Trips			9	1	1	1
Pass-By Trips			42	42	37	37
Coffee/Donut Shop (936)	3,500 SF	2,642	181	173	64	63
Internal Capture Trips			17	2	1	2
Super Convenience Market (960)	4,993 SF	4,184	208	207	173	173
Internal Capture Trips			0	0	0	0
Pass-By Trips			129	129	97	97
Total Trips		15,066	689	774	639	566
Total Internal Capture Trips			46	46	22	22
Total Pass-By Trips			78	78	84	84
Total New External Trips			565	650	533	460





IDLEWILD SITE
STALLINGS, NORTH CAROLINA



SITE DATA
TAX MAP NO: 07075020, 07075019,
07075018, 07075017A, 0707017B,
07075028, 07075023, 19511201,
07075022, 07075022A, 19511224,
19511202, 19511213

ZONING: MU-2
PROPOSED ZONING: MU-2

TOTAL SITE AREA: ±72.32 ACRES

EXISTING LAND USE: VACANT (WOODED LAND)
PROPOSED USE: MULTIFAMILY RESIDENTIAL,
TOWNHOMES, COMMERCIAL

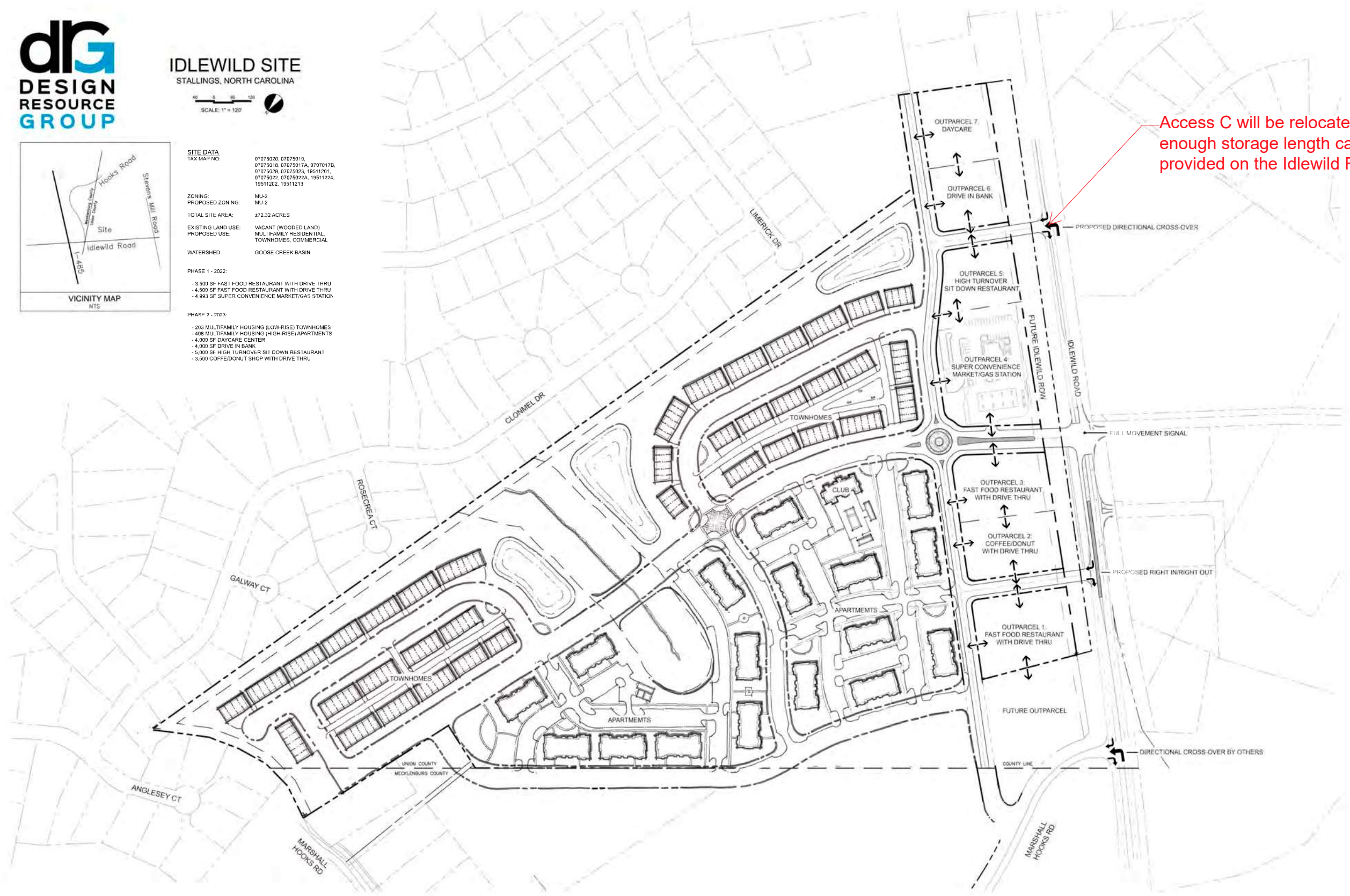
WATERSHED: GOOSE CREEK BASIN

PHASE 1 - 2022:

- 3,500 SF FAST FOOD RESTAURANT WITH DRIVE THRU
- 4,500 SF FAST FOOD RESTAURANT WITH DRIVE THRU
- 4,993 SF SUPER CONVENIENCE MARKET/GAS STATION

PHASE 2 - 2023:

- 203 MULTIFAMILY HOUSING (LOW-RISE) TOWNHOMES
- 408 MULTIFAMILY HOUSING (HIGH-RISE) APARTMENTS
- 4,000 SF DAYCARE CENTER
- 4,000 SF DRIVE IN BANK
- 5,000 SF HIGH TURNOVER SIT DOWN RESTAURANT
- 3,500 COFFEE/DONUT SHOP WITH DRIVE THRU



Access C will be relocated so that enough storage length can be provided on the Idlewild Road left turn.

Moving forward.



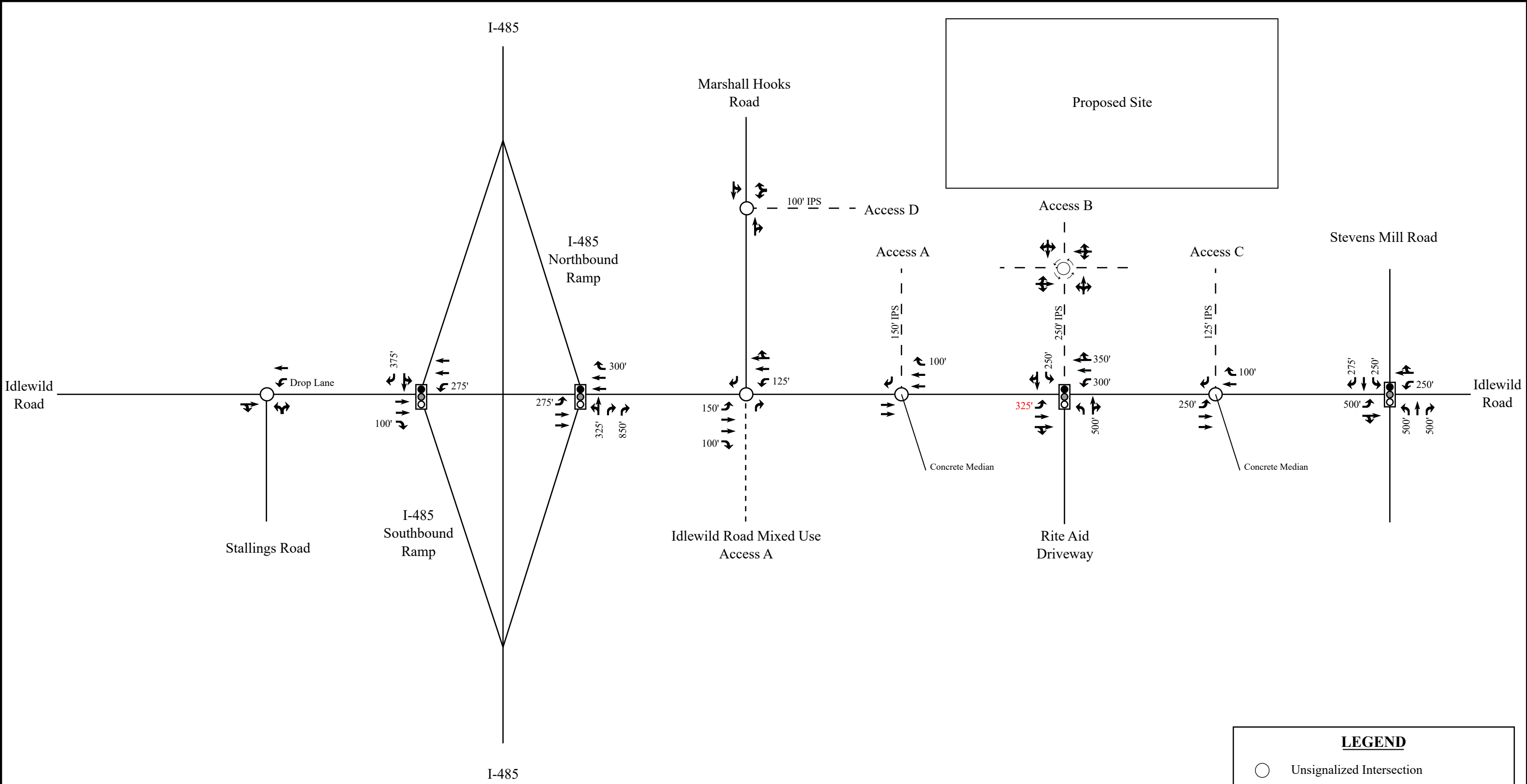
Stinson Village
Stallings, NC

Preliminary Site Plan

Scale: Not to Scale

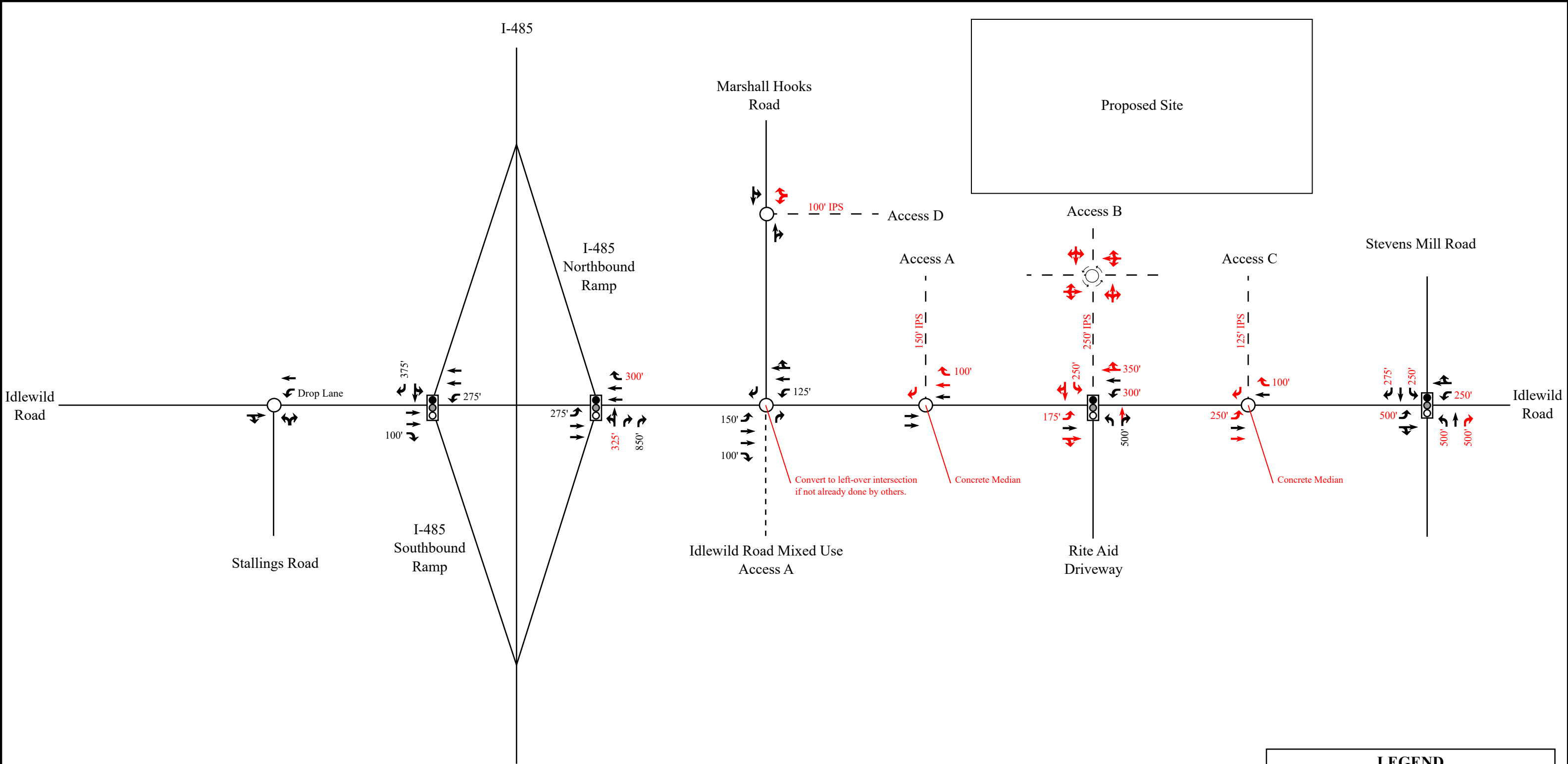
Figure 2





LEGEND

- Unsignalized Intersection
- ◫ Signalized Intersection
- ⊙ Roundabout
- ➡ Existing Lane
- ➡ Improvement By Developer
- X' Storage (In Feet)



Moving forward.

RKA

RAMEY KEMP ASSOCIATES

Stinson Village

Stallings, NC

2022 Build Phase 1
(without Gas Station)
Recommended
Lane Configurations

Scale: Not to Scale

Figure E-1

↑

N

↓

○

Unsignalized Intersection

◼

Signalized Intersection

⦿

Roundabout

→

Existing Lane

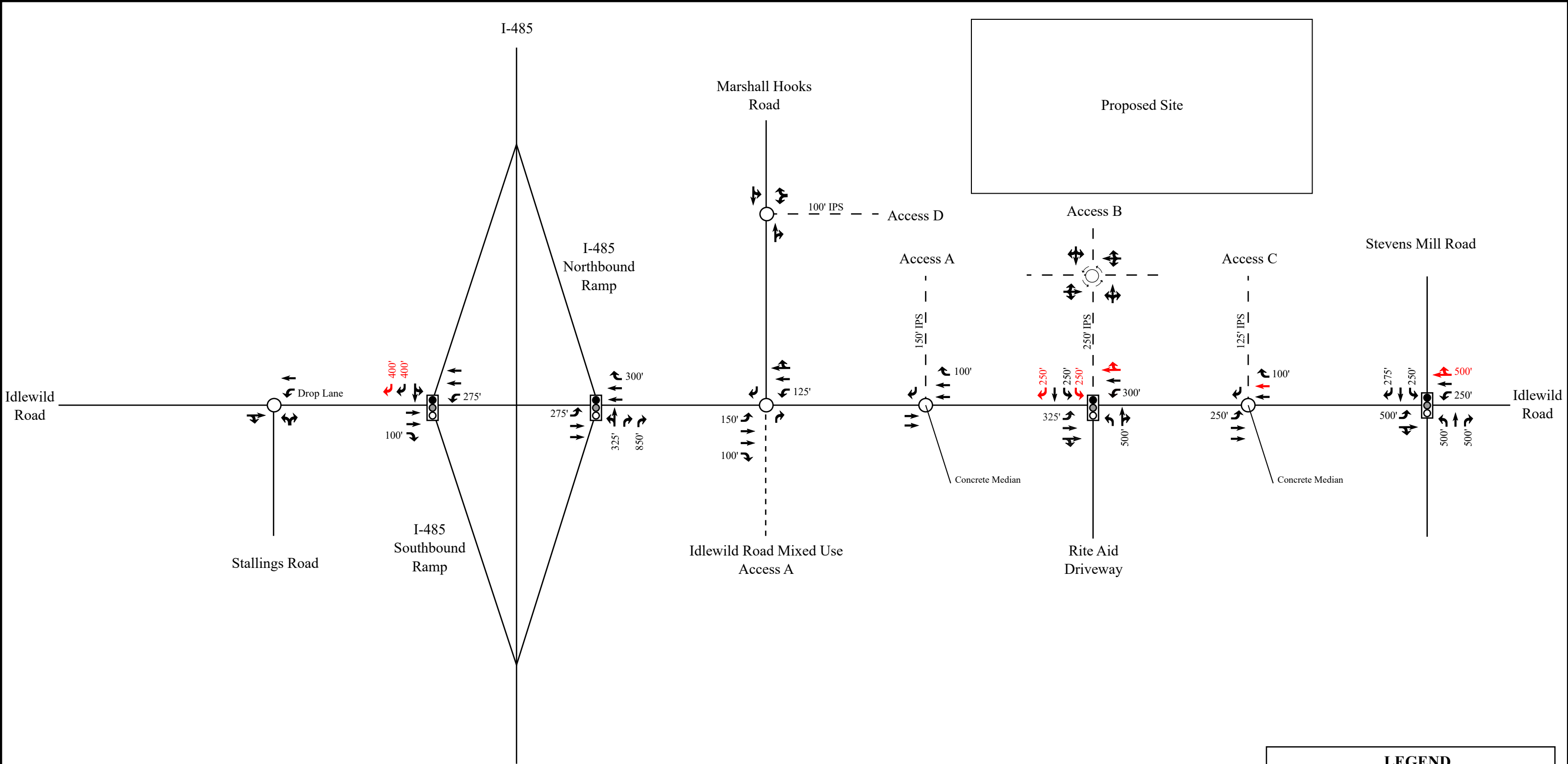
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Improvement By Developer

X'

Storage (In Feet)

E-7



Moving forward.



RAMEY KEMP ASSOCIATES

Stinson Village

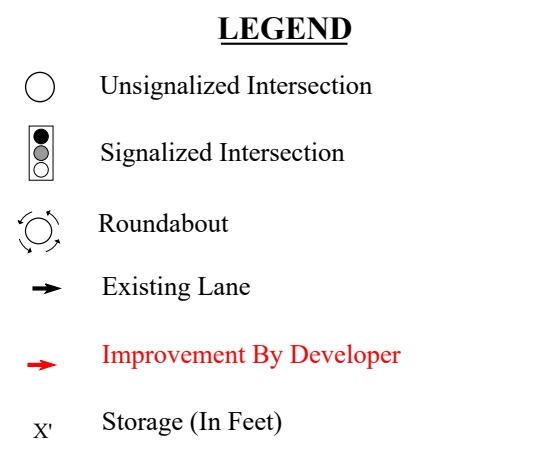
Stallings, NC

2023 Full Build
(without Gas Station)
Recommended
Lane Configurations

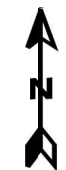
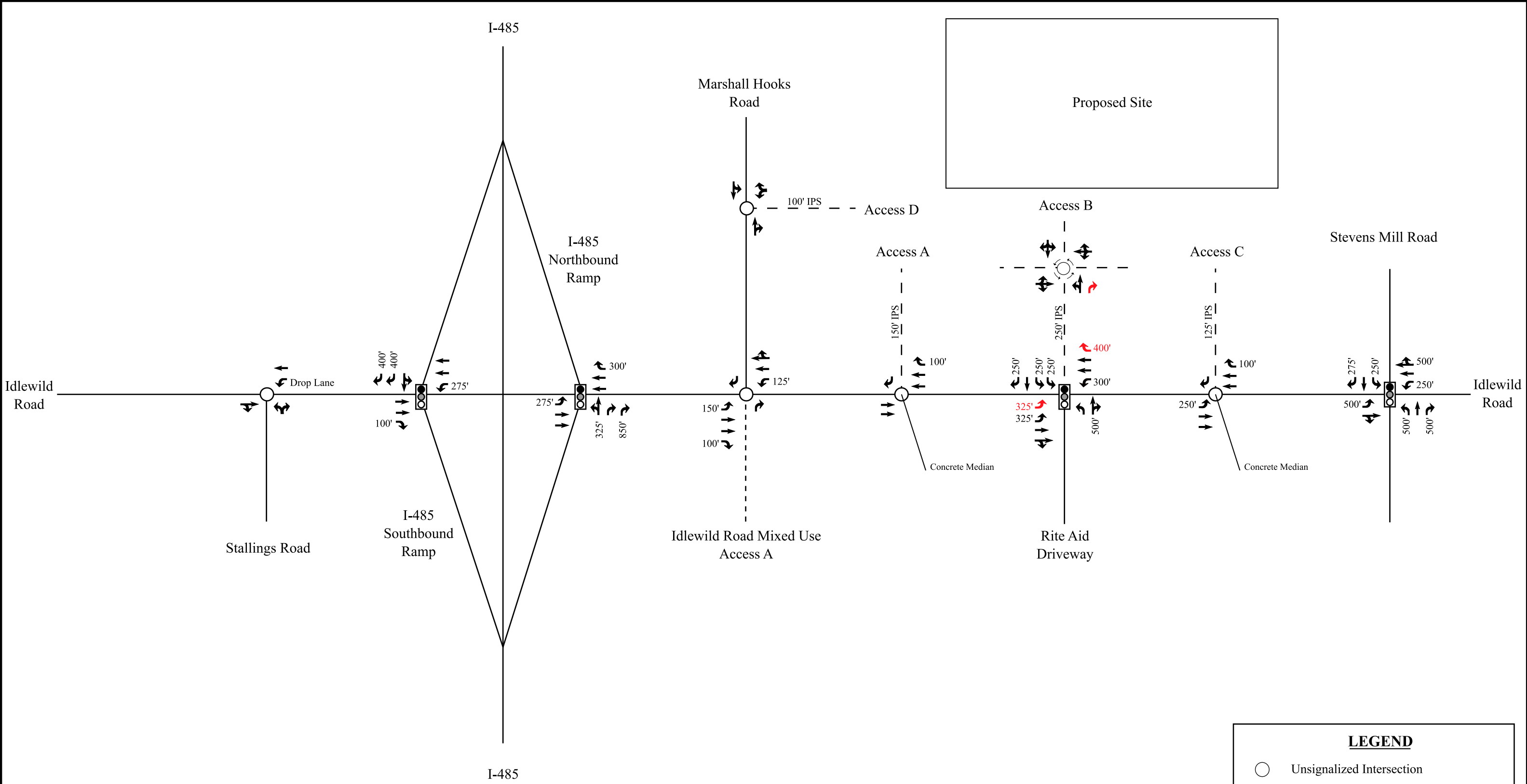
Scale: Not to Scale

Figure E-3





E-9



LEGEND

- Unsignalized Intersection
- Signalized Intersection
- Roundabout
- Existing Lane
- Improvement By Developer
- X' Storage (In Feet)

**Transportation Impact Analysis for
Sante Matthews
(previously known as Matthews Village)
Idlewild Road and Stallings Road
Matthews, North Carolina**

Prepared for:

**Pappas Properties, LLC
Charlotte, 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**

Kimley»Horn

**October 2022
014132002**



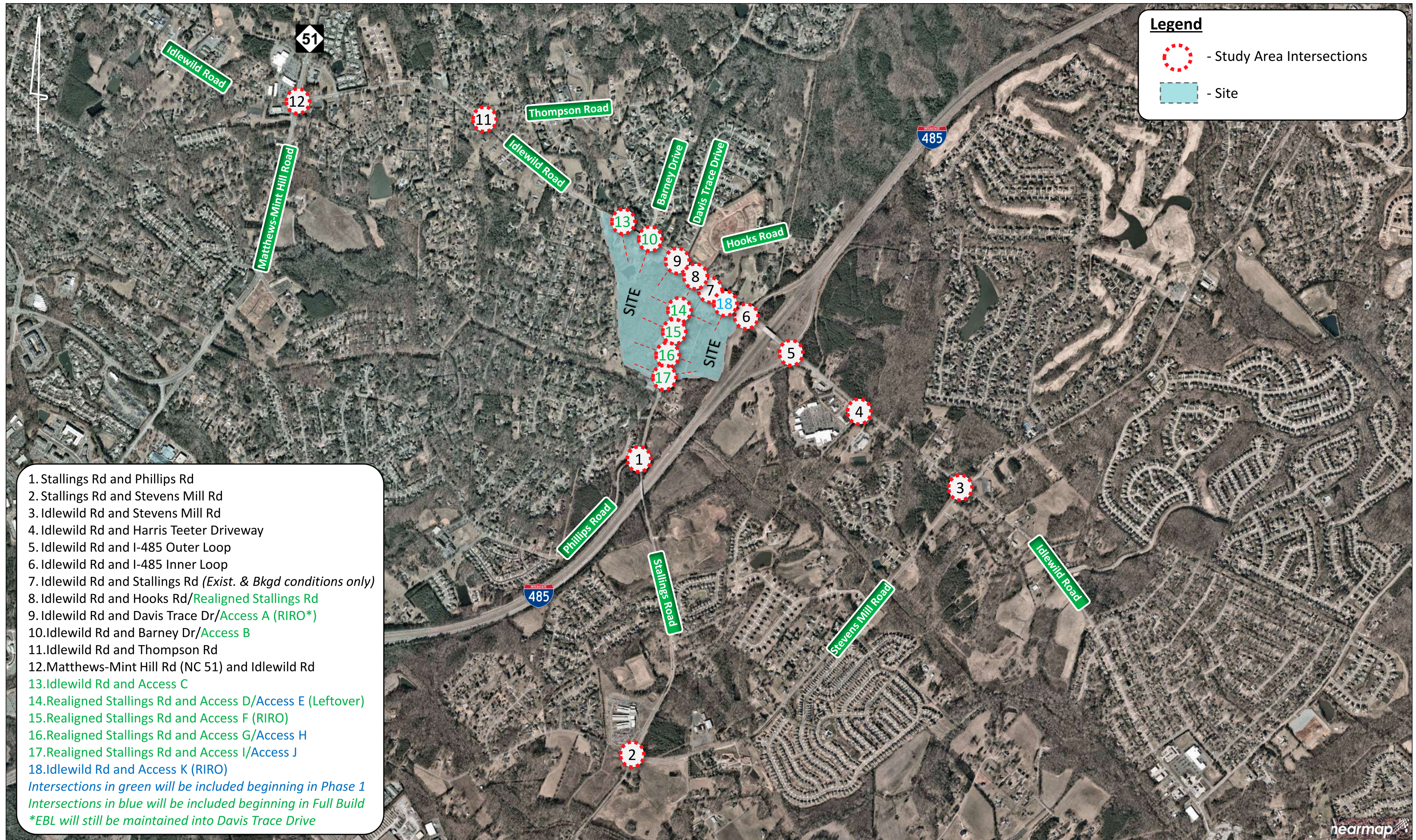
Brady Finklea
10/3/2022

Table 5.1 - Trip Generation										
ITE LUC	Land Use	Intensity	Daily	AM Peak Hour			PM Peak Hour			
				Total	In	Out	Total	In	Out	
Phase 1										
710	General Office Building~	30,000 SF	407	59	52	7	61	10	51	
822	Strip Retail Plaza	4,000 SF	398	16	10	6	41	21	20	
930	Fast Casual Restaurant	13,000 SF	1,263	19	10	9	163	90	73	
932	High-Turnover Sit Down Restaurant	9,000 SF	965	123	70	53	147	75	72	
937	Coffee/Donut Shop with Drive-Thru Window	3,000 SF	1,601	258	132	126	117	59	58	
210	Single-Family Homes (Detached)	55 DU	582	50	13	37	57	36	21	
215	Single-Family Homes (Attached)	170 DU	1,245	83	17	66	98	56	42	
220	Multifamily Housing Low-Rise	30 DU	268	32	8	24	33	21	12	
221	Multifamily Housing Mid-Rise	100 DU	431	32	7	25	39	24	15	
	Subtotal		7,160	672	319	353	756	392	364	
	Internal Capture		1,568	110	55	55	124	62	62	
	ITE 932 Pass-By - 0% AM / 43% PM		52	0	0	0	52	26	26	
	ITE Pass-By		52	0	0	0	52	26	26	
	Adjacent Street Traffic			2,344			2,422			
	10% Adjacent Street Traffic		480	236	118	118	244	122	122	
	Pass-By		52	0	0	0	52	26	26	
Net New External Trips (Phase 1)			5,540	562	264	298	580	304	276	
Full Build (Phases 1+2)										
710	General Office Building~	30,000 SF	407	59	52	7	61	10	51	
822	Strip Retail Plaza	4,000 SF	398	16	10	6	41	21	20	
822	Strip Retail Plaza	3,000 SF	356	13	8	5	33	17	16	
850	Supermarket	65,000 SF	5,960	428	223	205	562	287	275	
930	Fast Casual Restaurant	19,000 SF	1,846	27	14	13	238	131	107	
932	High-Turnover Sit Down Restaurant	9,000 SF	965	123	70	53	147	75	72	
937	Coffee/Donut Shop with Drive-Thru Window	3,000 SF	1,601	258	132	126	117	59	58	
912	Drive-in Bank	3,000 SF	301	30	17	13	63	32	31	
945	Convenience Store/Gas Station - VFP (2-8)	2,000 SF	1,248	81	41	40	97	49	48	
210	Single-Family Homes (Detached)	55 DU	582	50	13	37	57	36	21	
215	Single-Family Homes (Attached)	170 DU	1,245	83	17	66	98	56	42	
220	Multifamily Housing Low-Rise	30 DU	268	32	8	24	33	21	12	
221	Multifamily Housing Mid-Rise	400 DU	1,862	164	38	126	156	95	61	
	Subtotal		17,039	1,364	643	721	1,703	889	814	
	Internal Capture		6,436	254	127	127	582	291	291	
	ITE 850 Pass-By - 19% AM / 24% PM		154	66	33	33	88	44	44	
	ITE 932 Pass-By - 0% AM / 43% PM		28	0	0	0	28	14	14	
	ITE 945 Pass-By - 60% AM / 56% PM		76	40	20	20	36	18	18	
	ITE 912 Pass-By - 29% AM / 35% PM		20	6	3	3	14	7	7	
	ITE Pass-By		278	112	56	56	166	83	83	
	Adjacent Street Traffic			2,362			2,442			
	10% Adjacent Street Traffic		484	238	119	119	246	123	123	
	Pass-By		278	112	56	56	166	83	83	
Net New External Trips (Full Build)			10,325	998	460	538	955	515	440	
~NCDOT Rate vs Equation recommends using Generator equations, but ITE only provides Adjacent Street equations.										

~NCDOT Rate vs Equation recommends using Generator equations, but ITE only provides Adjacent Street equations.

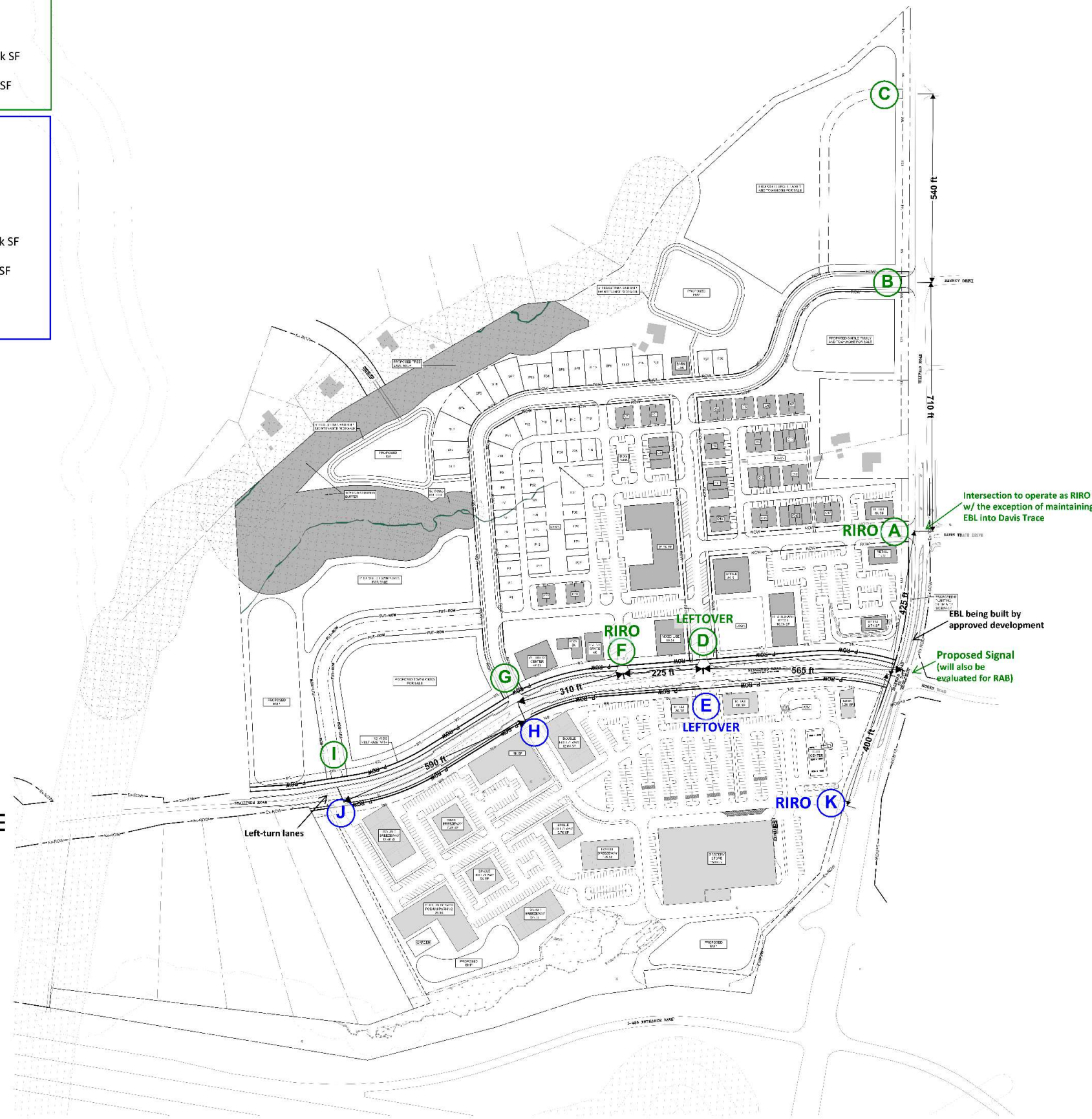
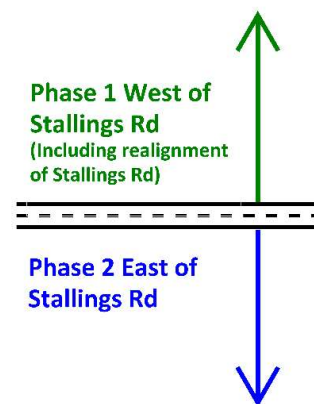
Sante Matthews (previously known as Matthews Village)

Transportation Impact Analysis



- Residential: 355 DU
 - Single-family **detached**: 55 homes
 - Single-family **attached**: 170 units
 - Multifamily **Low-Rise**: 30 DUs
 - Multifamily **Mid-Rise**: 100 DUs
- Commercial: 59k SF
 - Fast Casual Restaurant: 13k SF
 - High-Turnover Sit Down Restaurant: 9k SF
 - Strip Retail Plaza: 4k SF
 - Coffee/Donut Shop w/ Drive-Thru: 3k SF
 - Office: 30k SF

- Residential: 655 DUs
- Single-family **detached**: 55 homes
- Single-family **attached**: 170 units
- Multifamily **Low-Rise**: 30 DUs
- Multifamily **Mid-Rise**: 400 DUs
- Commercial: 138k SF
- Fast Casual Restaurant: 19k SF
- High-Turnover Sit Down Restaurant: 9k SF
- Strip Retail Plaza: 7k SF
- Coffee/Donut Shop w/ Drive-Thru: 3k SF
- Office: 30k SF
- Grocery: 65k SF
- Gas Station: 2k SF (2-8 VFPs)
- Bank w/ Drive-Thru: 3k SF



GRAPHIC SCALE IN FEET
0 50 100 200

Kimley»Horn

© 2022 KIMLEY-HORN AND ASSOCIATES, INC.
250 SOUTH 1ST STREET, SUITE 200, CHARLOTTE, NC 28202
PHONE: 704-334-2131
WWW.KIMLEY-HORN.COM

**NOT FOR
CONSTRUCTION**

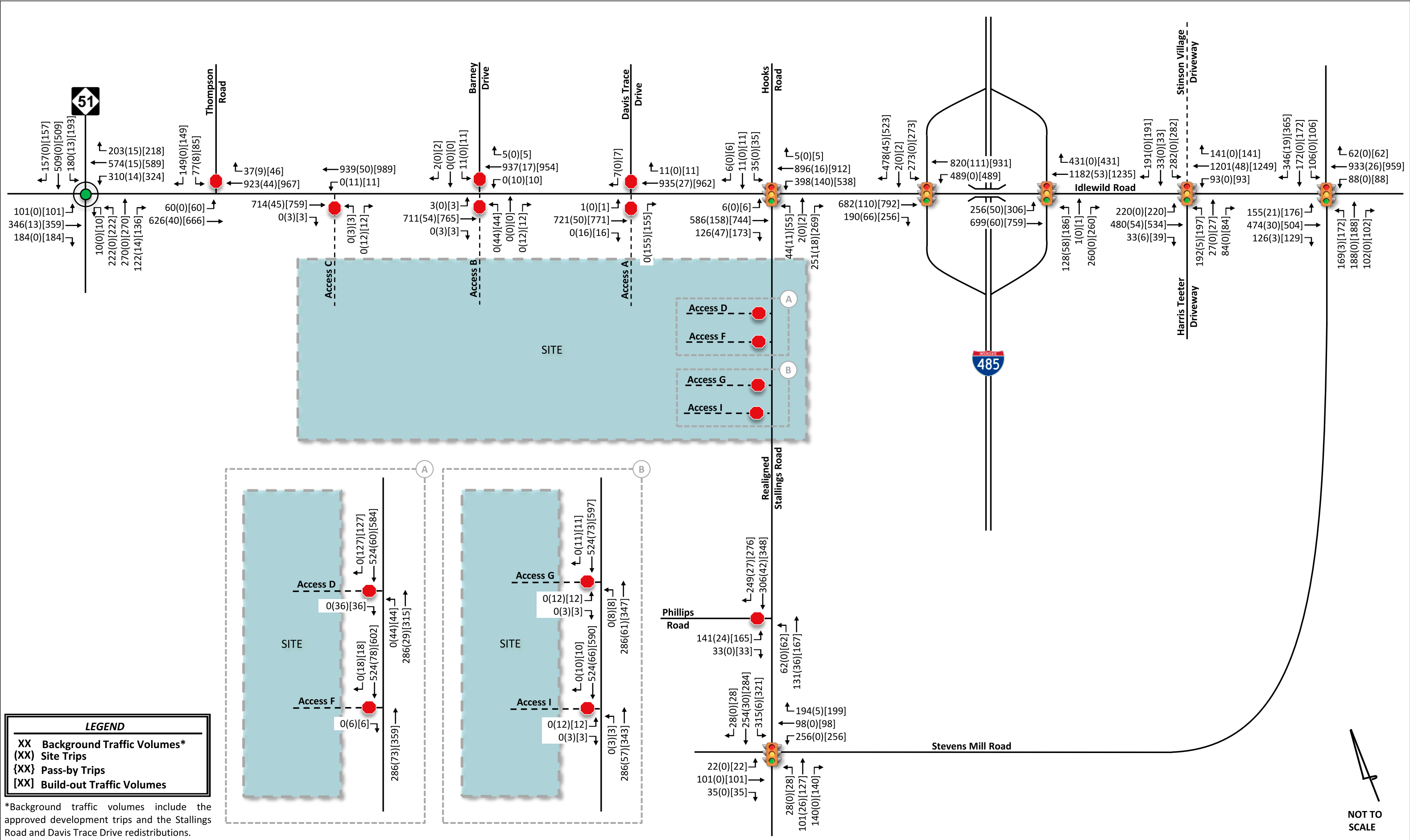
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JAI-	07/20/2022
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DRAWN BY	JAC
CHECKED BY	AMS

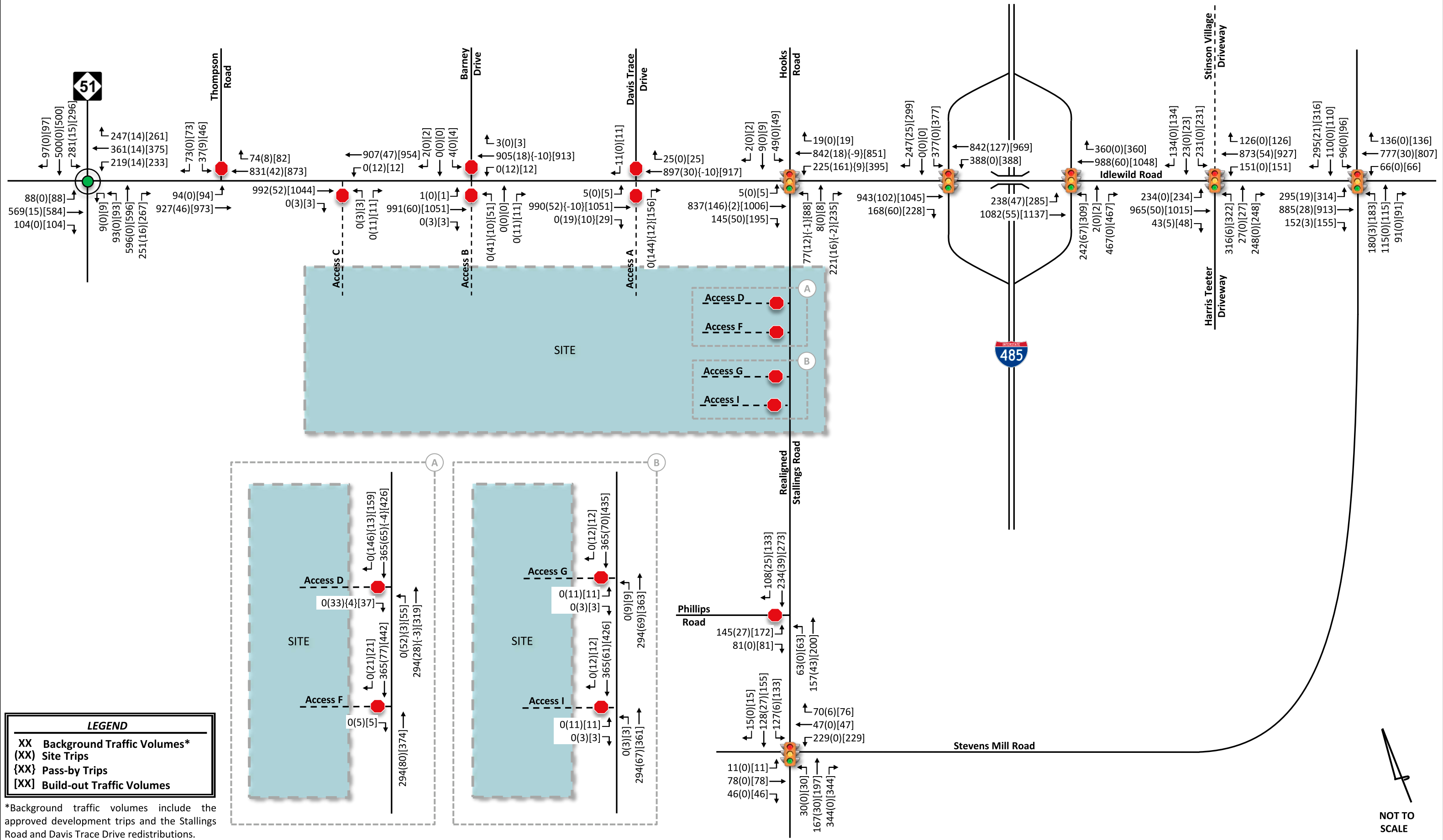
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OVERALL REZONING**

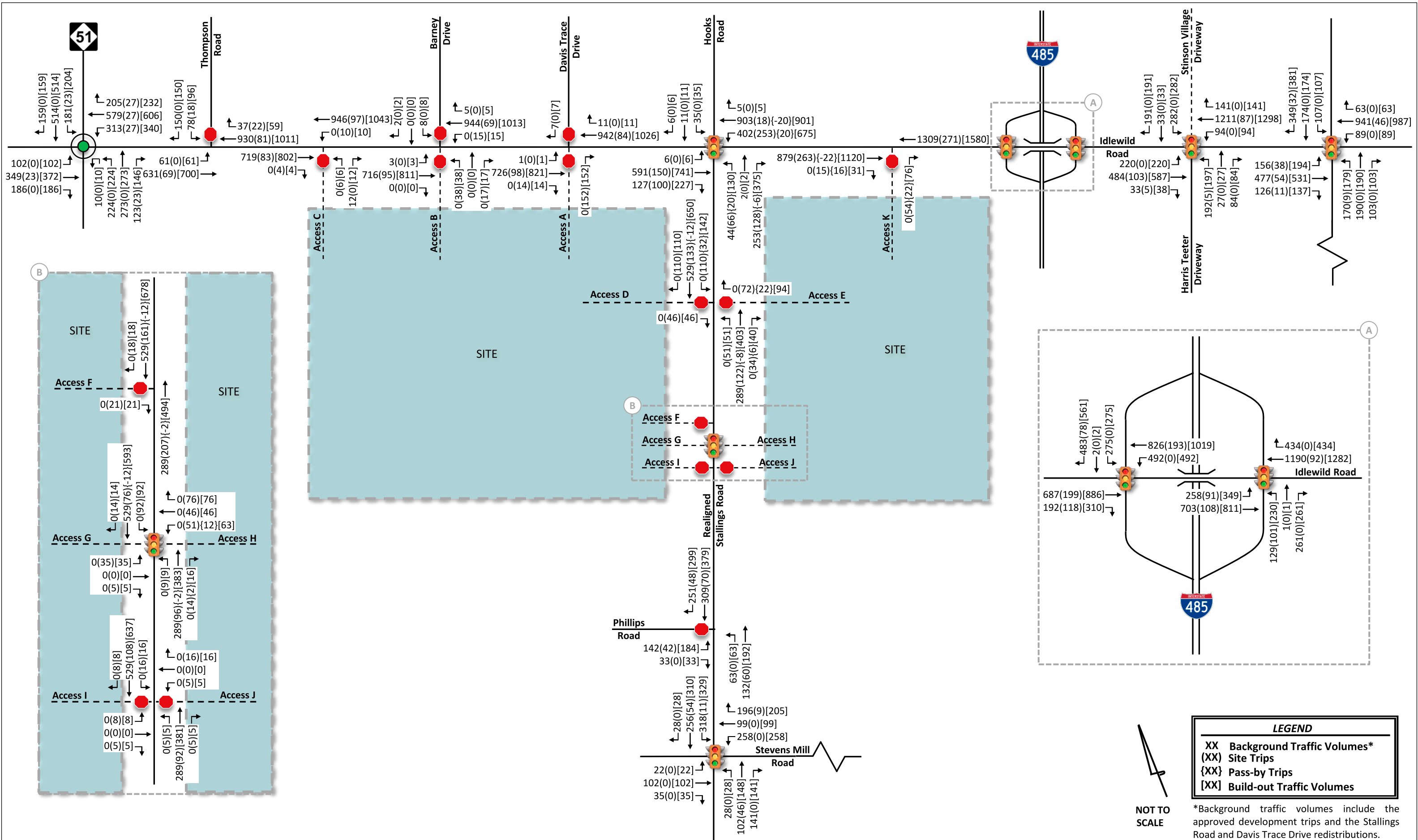
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PAPPAS PROPERTIES

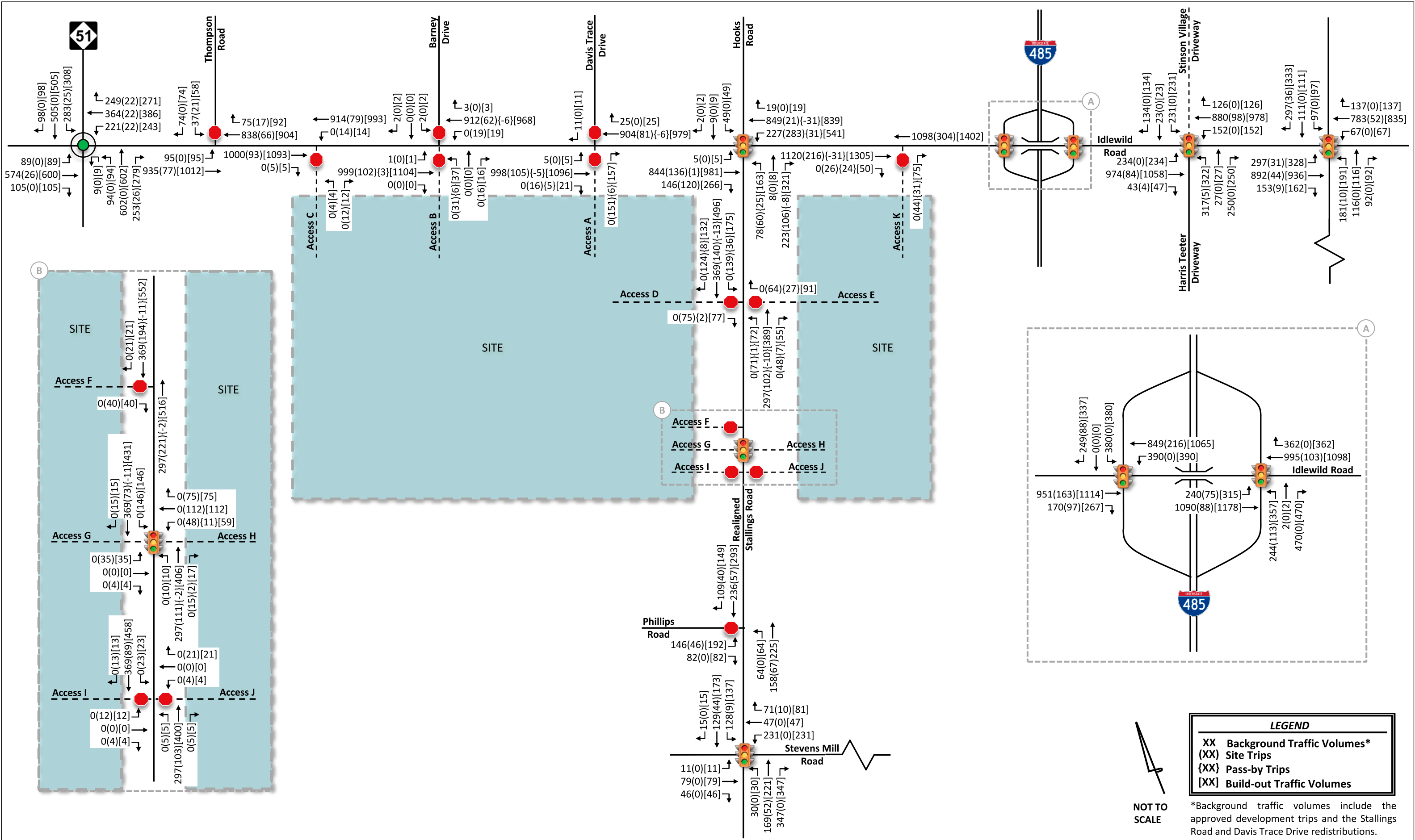
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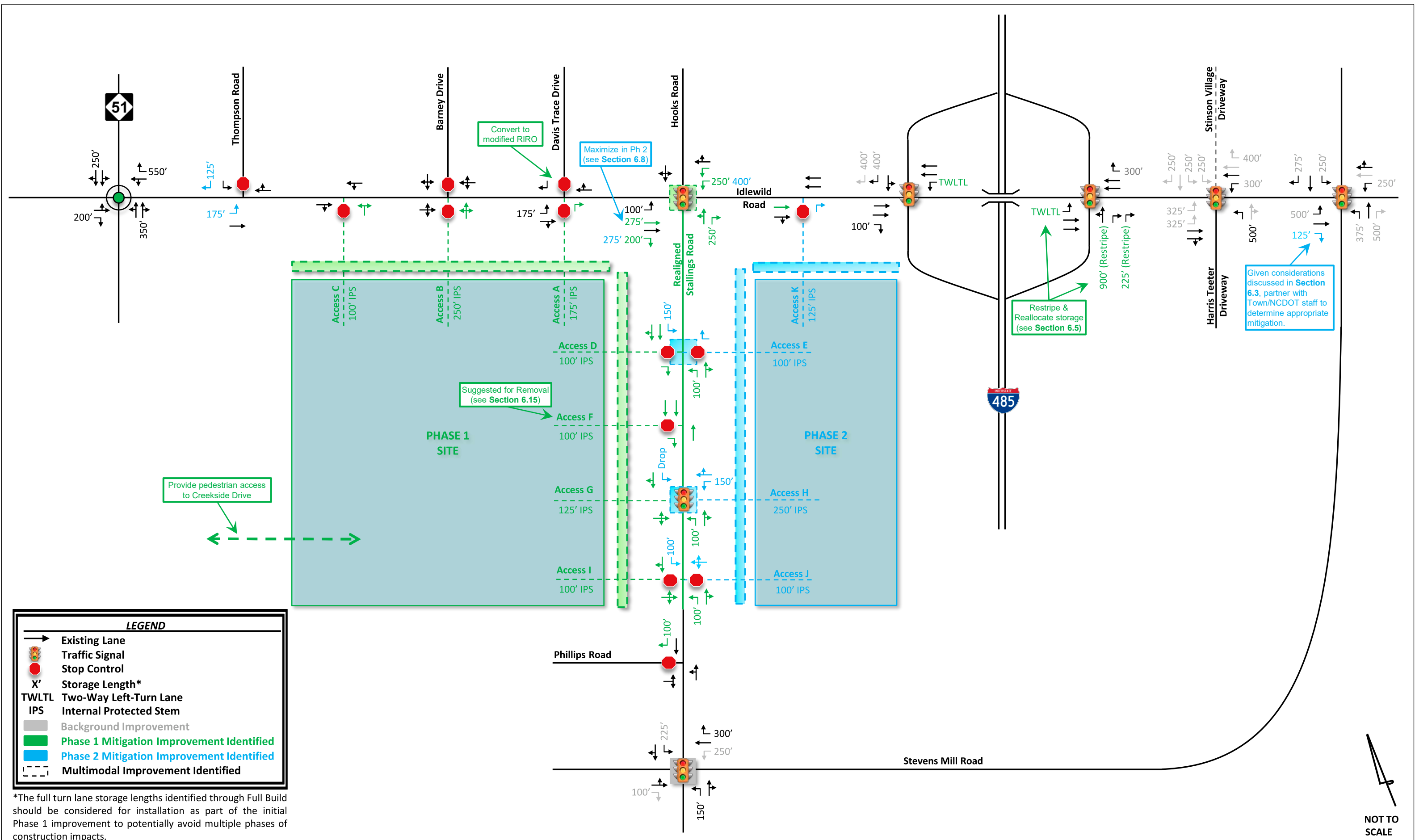
No.	Revisions	CA=	B ²
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APPENDIX E

Capacity Calculations

Idlewild Road and Stallings Road

HCM 6th TWSC
1: Stallings Road & Idlewild Road

2022 Existing
Timing Plan: AM Peak Hour

Intersection						
Int Delay, s/veh	13.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	391	103	344	539	27	179
Future Vol, veh/h	391	103	344	539	27	179
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	434	114	382	599	30	199
Major/Minor	Major1	Major2		Minor1		
Conflicting Flow All	0	0	548	0	1854	491
Stage 1	-	-	-	-	491	-
Stage 2	-	-	-	-	1363	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1021	-	81	578
Stage 1	-	-	-	-	615	-
Stage 2	-	-	-	-	238	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1021	-	51	578
Mov Cap-2 Maneuver	-	-	-	-	51	-
Stage 1	-	-	-	-	615	-
Stage 2	-	-	-	-	149	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		4.1		83.8	
HCM LOS					F	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	246	-	-	1021	-	
HCM Lane V/C Ratio	0.93	-	-	0.374	-	
HCM Control Delay (s)	83.8	-	-	10.6	-	
HCM Lane LOS	F	-	-	B	-	
HCM 95th %tile Q(veh)	8.3	-	-	1.8	-	

HCM 6th TWSC
1: Stallings Road & Idlewild Road

05/25/2023

Intersection						
Int Delay, s/veh	52.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	684	78	166	614	57	209
Future Vol, veh/h	684	78	166	614	57	209
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	760	87	184	682	63	232
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	847	0	1854	804
Stage 1	-	-	-	-	804	-
Stage 2	-	-	-	-	1050	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	790	-	81	383
Stage 1	-	-	-	-	440	-
Stage 2	-	-	-	-	337	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	790	-	~ 62	383
Mov Cap-2 Maneuver	-	-	-	-	~ 62	-
Stage 1	-	-	-	-	440	-
Stage 2	-	-	-	-	258	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		2.3		\$ 350	
HCM LOS					F	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	182	-	-	790	-	
HCM Lane V/C Ratio	1.624	-	-	0.233	-	
HCM Control Delay (s)	\$ 350	-	-	10.9	-	
HCM Lane LOS	F	-	-	B	-	
HCM 95th %tile Q(veh)	19.8	-	-	0.9	-	
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

Stevens Mill and Idlewild Crossing - Stallings, NC

2025 No-Build

1: Stallings Road/Hooks Road & Idlewild Road

Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	701	142	499	761	5	37	4	215	35	11	6
Future Volume (vph)	6	701	142	499	761	5	37	4	215	35	11	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	275		200	250		0	0		250	0		0
Storage Lanes	2		1	1		0	0		1	0		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.999				0.850		0.984	
Flt Protected	0.950			0.950				0.956			0.967	
Satd. Flow (prot)	1770	3539	1583	3433	1861	0	0	1781	1583	0	1772	0
Flt Permitted	0.346			0.950				0.743			0.770	
Satd. Flow (perm)	645	3539	1583	3433	1861	0	0	1384	1583	0	1411	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			45			35	
Link Distance (ft)		1283			1065			1584			2112	
Travel Time (s)		19.4			16.1			24.0			41.1	
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
Adj. Flow (vph)	7	779	158	554	846	6	41	4	239	39	12	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	7	779	158	554	852	0	0	45	239	0	58	0
Turn Type	Perm	NA	Perm	Prot	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases		2		1	6			8	1		4	
Permitted Phases	2		2				8		8	4		
Detector Phase	2	2	2	1	6		8	8	1	4	4	
Switch Phase												
Minimum Initial (s)	12.0	12.0	12.0	7.0	12.0		7.0	7.0	7.0	7.0	7.0	
Minimum Split (s)	19.0	19.0	19.0	14.0	19.0		14.0	14.0	14.0	14.0	14.0	
Total Split (s)	61.0	61.0	61.0	40.0	101.0		19.0	19.0	40.0	19.0	19.0	
Total Split (%)	50.8%	50.8%	50.8%	33.3%	84.2%		15.8%	15.8%	33.3%	15.8%	15.8%	
Maximum Green (s)	54.0	54.0	54.0	33.0	94.0		12.0	12.0	33.0	12.0	12.0	
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	-2.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Lead/Lag	Lag	Lag	Lag	Lead					Lead			
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	C-Max	C-Max	C-Max	None	C-Max		Max	Max	None	Max	Max	
Act Effect Green (s)	63.8	63.8	63.8	27.2	96.0			14.0	46.2		14.0	
Actuated g/C Ratio	0.53	0.53	0.53	0.23	0.80			0.12	0.38		0.12	
v/c Ratio	0.02	0.41	0.19	0.71	0.57			0.28	0.39		0.35	
Control Delay	15.8	18.4	16.4	38.1	10.6			53.5	28.1		55.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0			0.0	0.0		0.0	
Total Delay	15.8	18.4	16.4	38.1	10.6			53.5	28.1		55.5	
LOS	B	B	B	D	B			D	C		E	
Approach Delay		18.1			21.4			32.1			55.5	
Approach LOS		B			C			C			E	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)	2	184	62	171	471			32	132		42	
Queue Length 95th (ft)	12	260	113	213	580			71	185		86	
Internal Link Dist (ft)		1203			985			1504			2032	
Turn Bay Length (ft)	275		200	250					250			
Base Capacity (vph)	342	1881	841	1001	1488			161	712		164	
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	0.02	0.41	0.19	0.55	0.57			0.28	0.34		0.35	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 77 (64%), Referenced to phase 2:EBTL and 6:WBT, Start of Green

Natural Cycle: 50

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.71

Intersection Signal Delay: 22.1

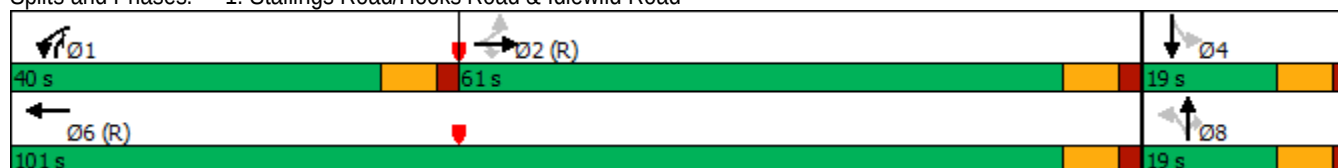
Intersection LOS: C

Intersection Capacity Utilization 72.4%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 1: Stallings Road/Hooks Road & Idlewild Road



Stevens Mill and Idlewild Crossing - Stallings, NC

2025 No-Build

1: Stallings Road/Hooks Road & Idlewild Road

Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	975	121	354	768	19	62	8	237	49	9	4
Future Volume (vph)	5	975	121	354	768	19	62	8	237	49	9	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	275		200	250		0	0		250	0		0
Storage Lanes	2		1	1		0	0		1	0		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.996				0.850		0.992	
Flt Protected	0.950			0.950				0.958			0.962	
Satd. Flow (prot)	1770	3539	1583	3433	1855	0	0	1785	1583	0	1778	0
Flt Permitted	0.339			0.950				0.732			0.700	
Satd. Flow (perm)	631	3539	1583	3433	1855	0	0	1364	1583	0	1293	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			45			35	
Link Distance (ft)		1283			1065			1584			2112	
Travel Time (s)		19.4			16.1			24.0			41.1	
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
Adj. Flow (vph)	6	1083	134	393	853	21	69	9	263	54	10	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	6	1083	134	393	874	0	0	78	263	0	68	0
Turn Type	Perm	NA	Perm	Prot	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases		2		1	6			8	1		4	
Permitted Phases	2		2				8		8	4		
Detector Phase	2	2	2	1	6		8	8	1	4	4	
Switch Phase												
Minimum Initial (s)	12.0	12.0	12.0	7.0	12.0		7.0	7.0	7.0	7.0	7.0	
Minimum Split (s)	19.0	19.0	19.0	14.0	19.0		14.0	14.0	14.0	14.0	14.0	
Total Split (s)	82.0	82.0	82.0	34.0	116.0		24.0	24.0	34.0	24.0	24.0	
Total Split (%)	58.6%	58.6%	58.6%	24.3%	82.9%		17.1%	17.1%	24.3%	17.1%	17.1%	
Maximum Green (s)	75.0	75.0	75.0	27.0	109.0		17.0	17.0	27.0	17.0	17.0	
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	Lag	Lag	Lag	Lead					Lead			
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	C-Max	C-Max	C-Max	None	C-Max		Max	Max	None	Max	Max	
Act Effect Green (s)	82.7	82.7	82.7	23.3	111.0			19.0	47.3		19.0	
Actuated g/C Ratio	0.59	0.59	0.59	0.17	0.79			0.14	0.34		0.14	
v/c Ratio	0.02	0.52	0.14	0.69	0.59			0.42	0.49		0.39	
Control Delay	13.8	18.5	14.1	49.1	6.4			63.2	39.7		62.5	
Queue Delay	0.0	0.0	0.0	0.0	0.2			0.0	0.0		0.0	
Total Delay	13.8	18.5	14.1	49.1	6.6			63.2	39.7		62.5	
LOS	B	B	B	D	A			E	D		E	
Approach Delay		18.0			19.8			45.1			62.5	
Approach LOS		B			B			D			E	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)	2	292	52	120	490			66	190		57	
Queue Length 95th (ft)	9	389	95	191	75			122	260		109	
Internal Link Dist (ft)		1203			985			1504			2032	
Turn Bay Length (ft)	275		200	250					250			
Base Capacity (vph)	372	2089	934	711	1470			185	599		175	
Starvation Cap Reductn	0	0	0	0	113			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	0.02	0.52	0.14	0.55	0.64			0.42	0.44		0.39	

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 74 (53%), Referenced to phase 2:EBTL and 6:WBT, Start of Green

Natural Cycle: 55

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.69

Intersection Signal Delay: 23.0

Intersection LOS: C

Intersection Capacity Utilization 74.2%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 1: Stallings Road/Hooks Road & Idlewild Road

			
Ø1	Ø2 (R)		Ø4
34 s	82 s		24 s
			
Ø6 (R)			Ø8
116 s			24 s

Stevens Mill and Idlewild Crossing - Stallings, NC

2025 Build

1: Stallings Road/Hooks Road & Idlewild Road

Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	751	142	513	804	5	37	4	231	35	11	6
Future Volume (vph)	6	751	142	513	804	5	37	4	231	35	11	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	275		200	250		0	0		250	0		0
Storage Lanes	2		1	1		0	0		1	0		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.999				0.850			0.984
Flt Protected	0.950			0.950				0.956				0.967
Satd. Flow (prot)	1770	3539	1583	3433	1861	0	0	1781	1583	0	1772	0
Flt Permitted	0.331			0.950				0.743				0.770
Satd. Flow (perm)	617	3539	1583	3433	1861	0	0	1384	1583	0	1411	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			45			35	
Link Distance (ft)		1283			1065			1584			2112	
Travel Time (s)		19.4			16.1			24.0			41.1	
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
Adj. Flow (vph)	7	834	158	570	893	6	41	4	257	39	12	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	7	834	158	570	899	0	0	45	257	0	58	0
Turn Type	Perm	NA	Perm	Prot	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases		2		1	6			8	1		4	
Permitted Phases	2		2				8		8	4		
Detector Phase	2	2	2	1	6		8	8	1	4	4	
Switch Phase												
Minimum Initial (s)	12.0	12.0	12.0	7.0	12.0		7.0	7.0	7.0	7.0	7.0	
Minimum Split (s)	19.0	19.0	19.0	14.0	19.0		14.0	14.0	14.0	14.0	14.0	
Total Split (s)	61.0	61.0	61.0	40.0	101.0		19.0	19.0	40.0	19.0	19.0	
Total Split (%)	50.8%	50.8%	50.8%	33.3%	84.2%		15.8%	15.8%	33.3%	15.8%	15.8%	
Maximum Green (s)	54.0	54.0	54.0	33.0	94.0		12.0	12.0	33.0	12.0	12.0	
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	Lag	Lag	Lag	Lead					Lead			
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	C-Max	C-Max	C-Max	None	C-Max		Max	Max	None	Max	Max	
Act Effect Green (s)	63.3	63.3	63.3	27.7	96.0			14.0	46.7		14.0	
Actuated g/C Ratio	0.53	0.53	0.53	0.23	0.80			0.12	0.39		0.12	
v/c Ratio	0.02	0.45	0.19	0.72	0.60			0.28	0.42		0.35	
Control Delay	16.2	19.2	16.7	38.5	10.9			53.5	28.3		55.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0			0.0	0.0		0.0	
Total Delay	16.2	19.2	16.7	38.5	10.9			53.5	28.3		55.5	
LOS	B	B	B	D	B			D	C		E	
Approach Delay		18.8			21.6			32.0			55.5	
Approach LOS		B			C			C			E	

Stevens Mill and Idlewild Crossing - Stallings, NC

2025 Build

1: Stallings Road/Hooks Road & Idlewild Road

Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)	3	203	62	175	538			32	143		42	
Queue Length 95th (ft)	12	285	115	219	599			71	198		86	
Internal Link Dist (ft)		1203			985			1504			2032	
Turn Bay Length (ft)	275		200	250					250			
Base Capacity (vph)	325	1865	834	1001	1488			161	712		164	
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	0.02	0.45	0.19	0.57	0.60			0.28	0.36		0.35	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 77 (64%), Referenced to phase 2:EBTL and 6:WBT, Start of Green

Natural Cycle: 55

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.72

Intersection Signal Delay: 22.4

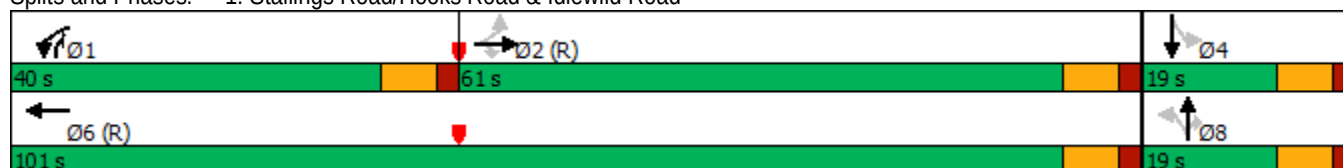
Intersection LOS: C

Intersection Capacity Utilization 74.7%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 1: Stallings Road/Hooks Road & Idlewild Road



Stevens Mill and Idlewild Crossing - Stallings, NC

2025 Build

1: Stallings Road/Hooks Road & Idlewild Road

Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	1045	121	377	837	19	62	8	260	49	9	4
Future Volume (vph)	5	1045	121	377	837	19	62	8	260	49	9	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	275		200	250		0	0		250	0		0
Storage Lanes	2		1	1		0	0		1	0		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.997				0.850		0.992	
Flt Protected	0.950			0.950				0.958			0.962	
Satd. Flow (prot)	1770	3539	1583	3433	1857	0	0	1785	1583	0	1778	0
Flt Permitted	0.315			0.950				0.732			0.700	
Satd. Flow (perm)	587	3539	1583	3433	1857	0	0	1364	1583	0	1293	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			45			35	
Link Distance (ft)		1283			1065			1584			2112	
Travel Time (s)		19.4			16.1			24.0			41.1	
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
Adj. Flow (vph)	6	1161	134	419	930	21	69	9	289	54	10	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	6	1161	134	419	951	0	0	78	289	0	68	0
Turn Type	Perm	NA	Perm	Prot	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases		2		1	6			8	1		4	
Permitted Phases	2		2				8		8	4		
Detector Phase	2	2	2	1	6		8	8	1	4	4	
Switch Phase												
Minimum Initial (s)	12.0	12.0	12.0	7.0	12.0		7.0	7.0	7.0	7.0	7.0	
Minimum Split (s)	19.0	19.0	19.0	14.0	19.0		14.0	14.0	14.0	14.0	14.0	
Total Split (s)	82.0	82.0	82.0	34.0	116.0		24.0	24.0	34.0	24.0	24.0	
Total Split (%)	58.6%	58.6%	58.6%	24.3%	82.9%		17.1%	17.1%	24.3%	17.1%	17.1%	
Maximum Green (s)	75.0	75.0	75.0	27.0	109.0		17.0	17.0	27.0	17.0	17.0	
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	Lag	Lag	Lag	Lead					Lead			
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	C-Max	C-Max	C-Max	None	C-Max		Max	Max	None	Max	Max	
Act Effect Green (s)	81.7	81.7	81.7	24.3	111.0			19.0	48.3		19.0	
Actuated g/C Ratio	0.58	0.58	0.58	0.17	0.79			0.14	0.34		0.14	
v/c Ratio	0.02	0.56	0.15	0.70	0.65			0.42	0.53		0.39	
Control Delay	14.2	19.9	14.5	51.9	6.9			63.2	40.2		62.5	
Queue Delay	0.0	0.0	0.0	0.0	0.3			0.0	0.0		0.0	
Total Delay	14.2	19.9	14.5	51.9	7.1			63.2	40.2		62.5	
LOS	B	B	B	D	A			E	D		E	
Approach Delay		19.3			20.8			45.1			62.5	
Approach LOS		B			C			D			E	

Stevens Mill and Idlewild Crossing - Stallings, NC

2025 Build

1: Stallings Road/Hooks Road & Idlewild Road

Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)	2	330	53	135	552			66	210		57	
Queue Length 95th (ft)	9	428	95	206	737			122	289		109	
Internal Link Dist (ft)		1203			985			1504			2032	
Turn Bay Length (ft)	275		200	250					250			
Base Capacity (vph)	342	2064	923	711	1472			185	599		175	
Starvation Cap Reductn	0	0	0	0	113			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	0.02	0.56	0.15	0.59	0.70			0.42	0.48		0.39	

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 74 (53%), Referenced to phase 2:EBTL and 6:WBT, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.70

Intersection Signal Delay: 24.0

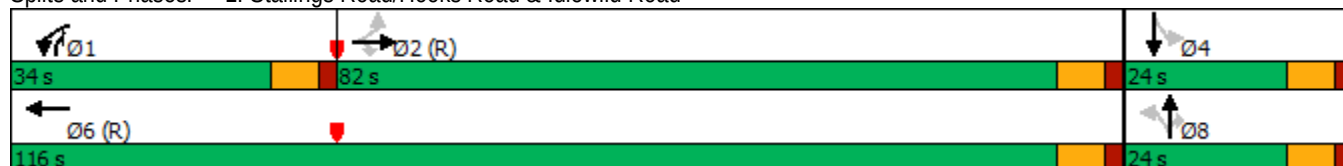
Intersection LOS: C

Intersection Capacity Utilization 77.8%

ICU Level of Service D

Analysis Period (min) 15

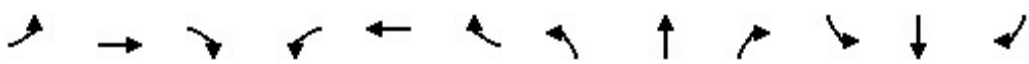
Splits and Phases: 1: Stallings Road/Hooks Road & Idlewild Road



Lanes, Volumes, Timings

1: Stallings Road/Hooks Road & Idlewild Road

2025 Build Improved
Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	751	142	513	804	5	37	4	231	35	11	6
Future Volume (vph)	6	751	142	513	804	5	37	4	231	35	11	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	275		200	250		0	0		250	0		0
Storage Lanes	2		1	1		0	0		1	0		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.999				0.850		0.984	
Flt Protected	0.950			0.950				0.956			0.967	
Satd. Flow (prot)	1770	3539	1583	3433	1861	0	0	1781	1583	0	1772	0
Flt Permitted	0.331			0.950				0.743			0.770	
Satd. Flow (perm)	617	3539	1583	3433	1861	0	0	1384	1583	0	1411	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			45			35	
Link Distance (ft)		1283			1065			1584			2112	
Travel Time (s)		19.4			16.1			24.0			41.1	
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
Adj. Flow (vph)	7	834	158	570	893	6	41	4	257	39	12	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	7	834	158	570	899	0	0	45	257	0	58	0
Turn Type	Perm	NA	Perm	Prot	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases		2		1	6			8	1		4	
Permitted Phases	2		2				8		8	4		
Detector Phase	2	2	2	1	6		8	8	1	4	4	
Switch Phase												
Minimum Initial (s)	12.0	12.0	12.0	7.0	12.0		7.0	7.0	7.0	7.0	7.0	
Minimum Split (s)	19.0	19.0	19.0	14.0	19.0		14.0	14.0	14.0	14.0	14.0	
Total Split (s)	60.0	60.0	60.0	41.0	101.0		19.0	19.0	41.0	19.0	19.0	
Total Split (%)	50.0%	50.0%	50.0%	34.2%	84.2%		15.8%	15.8%	34.2%	15.8%	15.8%	
Maximum Green (s)	53.0	53.0	53.0	34.0	94.0		12.0	12.0	34.0	12.0	12.0	
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	Lag	Lag	Lag	Lead					Lead			
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	C-Max	C-Max	C-Max	None	C-Max		Max	Max	None	Max	Max	
Act Effct Green (s)	63.2	63.2	63.2	27.8	96.0			14.0	46.8		14.0	
Actuated g/C Ratio	0.53	0.53	0.53	0.23	0.80			0.12	0.39		0.12	
v/c Ratio	0.02	0.45	0.19	0.72	0.60			0.28	0.42		0.35	
Control Delay	16.3	19.3	16.8	39.8	10.2			53.5	28.2		55.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0			0.0	0.0		0.0	
Total Delay	16.3	19.3	16.8	39.8	10.2			53.5	28.2		55.5	
LOS	B	B	B	D	B			D	C		E	
Approach Delay		18.9			21.6			32.0			55.5	
Approach LOS		B			C			C			E	

Lanes, Volumes, Timings
1: Stallings Road/Hooks Road & Idlewild Road

2025 Build Improved
Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)	3	203	62	180	543			32	143		42	
Queue Length 95th (ft)	12	286	115	222	568			71	197		86	
Internal Link Dist (ft)		1203			985			1504			2032	
Turn Bay Length (ft)	275		200	250					250			
Base Capacity (vph)	324	1863	833	1029	1488			161	725		164	
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	0.02	0.45	0.19	0.55	0.60			0.28	0.35		0.35	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 84 (70%), Referenced to phase 2:EBTL and 6:WBT, Start of Green

Natural Cycle: 55

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.72

Intersection Signal Delay: 22.5

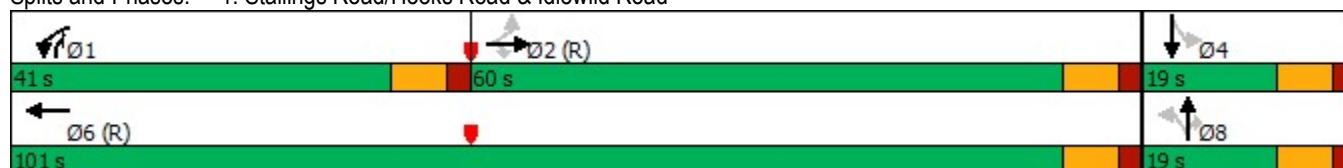
Intersection LOS: C

Intersection Capacity Utilization 74.7%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 1: Stallings Road/Hooks Road & Idlewild Road



Lanes, Volumes, Timings
1: Stallings Road/Hooks Road & Idlewild Road

2025 Build - Improved
Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 		 							 	
Traffic Volume (vph)	5	1045	121	377	837	19	62	8	260	49	9	4
Future Volume (vph)	5	1045	121	377	837	19	62	8	260	49	9	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	275		200	250		0	0		250	0		0
Storage Lanes	2		1	1		0	0		1	0		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.997				0.850		0.992	
Flt Protected	0.950			0.950				0.958			0.962	
Satd. Flow (prot)	1770	3539	1583	3433	1857	0	0	1785	1583	0	1778	0
Flt Permitted	0.315			0.950				0.732			0.700	
Satd. Flow (perm)	587	3539	1583	3433	1857	0	0	1364	1583	0	1293	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			45			35	
Link Distance (ft)		1283			1065			1584			2112	
Travel Time (s)		19.4			16.1			24.0			41.1	
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
Adj. Flow (vph)	6	1161	134	419	930	21	69	9	289	54	10	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	6	1161	134	419	951	0	0	78	289	0	68	0
Turn Type	Perm	NA	Perm	Prot	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases		2		1	6			8	1		4	
Permitted Phases	2		2				8		8	4		
Detector Phase	2	2	2	1	6		8	8	1	4	4	
Switch Phase												
Minimum Initial (s)	12.0	12.0	12.0	7.0	12.0		7.0	7.0	7.0	7.0	7.0	
Minimum Split (s)	19.0	19.0	19.0	14.0	19.0		14.0	14.0	14.0	14.0	14.0	
Total Split (s)	81.0	81.0	81.0	35.0	116.0		24.0	24.0	35.0	24.0	24.0	
Total Split (%)	57.9%	57.9%	57.9%	25.0%	82.9%		17.1%	17.1%	25.0%	17.1%	17.1%	
Maximum Green (s)	74.0	74.0	74.0	28.0	109.0		17.0	17.0	28.0	17.0	17.0	
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	Lag	Lag	Lag	Lead					Lead			
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	C-Max	C-Max	C-Max	None	C-Max		Max	Max	None	Max	Max	
Act Effct Green (s)	81.5	81.5	81.5	24.5	111.0			19.0	48.5		19.0	
Actuated g/C Ratio	0.58	0.58	0.58	0.18	0.79			0.14	0.35		0.14	
v/c Ratio	0.02	0.56	0.15	0.70	0.65			0.42	0.53		0.39	
Control Delay	14.4	20.1	14.7	48.1	8.3			63.2	39.9		62.5	
Queue Delay	0.0	0.0	0.0	0.0	0.2			0.0	0.0		0.0	
Total Delay	14.4	20.1	14.7	48.1	8.5			63.2	39.9		62.5	
LOS	B	C	B	D	A			E	D		E	
Approach Delay		19.5			20.6			44.8			62.5	
Approach LOS		B			C			D			E	

Lanes, Volumes, Timings
1: Stallings Road/Hooks Road & Idlewild Road

2025 Build - Improved

Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)	2	330	53	135	605			66	210		57	
Queue Length 95th (ft)	10	436	96	177	739			122	286		109	
Internal Link Dist (ft)		1203			985			1504			2032	
Turn Bay Length (ft)	275		200	250					250			
Base Capacity (vph)	341	2059	920	735	1472			185	610		175	
Starvation Cap Reductn	0	0	0	0	109			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	0.02	0.56	0.15	0.57	0.70			0.42	0.47		0.39	

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 97 (69%), Referenced to phase 2:EBTL and 6:WBT, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.70

Intersection Signal Delay: 23.9

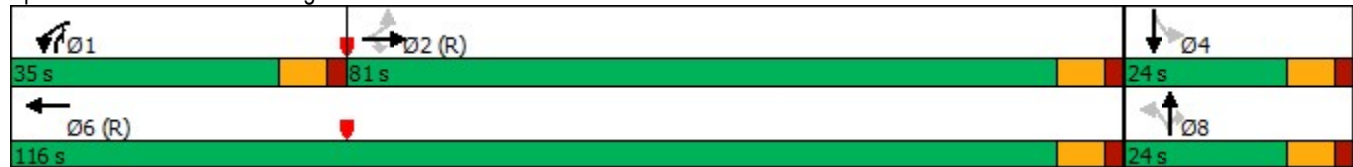
Intersection LOS: C

Intersection Capacity Utilization 77.8%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 1: Stallings Road/Hooks Road & Idlewild Road



Lanes, Volumes, Timings
1: Stallings Road/Hooks Road & Idlewild Road

2030 Build Improved
Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	771	201	645	835	5	93	4	351	35	11	6
Future Volume (vph)	6	771	201	645	835	5	93	4	351	35	11	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	275		200	250		0	0		250	0		0
Storage Lanes	2		1	1		0	0		1	0		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.999				0.850		0.984	
Flt Protected	0.950			0.950				0.954			0.967	
Satd. Flow (prot)	1770	3539	1583	3433	1861	0	0	1777	1583	0	1772	0
Flt Permitted	0.320			0.950				0.725			0.754	
Satd. Flow (perm)	596	3539	1583	3433	1861	0	0	1350	1583	0	1382	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			45			35	
Link Distance (ft)		1283			1065			1584			2112	
Travel Time (s)		19.4			16.1			24.0			41.1	
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
Adj. Flow (vph)	7	857	223	717	928	6	103	4	390	39	12	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	7	857	223	717	934	0	0	107	390	0	58	0
Turn Type	Perm	NA	Perm	Prot	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases		2		1	6			8	1		4	
Permitted Phases	2		2				8		8	4		
Detector Phase	2	2	2	1	6		8	8	1	4	4	
Switch Phase												
Minimum Initial (s)	12.0	12.0	12.0	7.0	12.0		7.0	7.0	7.0	7.0	7.0	
Minimum Split (s)	19.0	19.0	19.0	14.0	19.0		14.0	14.0	14.0	14.0	14.0	
Total Split (s)	52.0	52.0	52.0	43.0	95.0		25.0	25.0	43.0	25.0	25.0	
Total Split (%)	43.3%	43.3%	43.3%	35.8%	79.2%		20.8%	20.8%	35.8%	20.8%	20.8%	
Maximum Green (s)	45.0	45.0	45.0	36.0	88.0		18.0	18.0	36.0	18.0	18.0	
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	Lag	Lag	Lag	Lead					Lead			
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	C-Max	C-Max	C-Max	None	C-Max		Max	Max	None	Max	Max	
Act Effct Green (s)	52.0	52.0	52.0	33.0	90.0			20.0	58.0		20.0	
Actuated g/C Ratio	0.43	0.43	0.43	0.28	0.75			0.17	0.48		0.17	
v/c Ratio	0.03	0.56	0.33	0.76	0.67			0.48	0.51		0.25	
Control Delay	22.5	27.9	25.2	41.3	6.4			53.2	23.4		46.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0			0.0	0.0		0.0	
Total Delay	22.5	27.9	25.2	41.3	6.4			53.2	23.4		46.9	
LOS	C	C	C	D	A			D	C		D	
Approach Delay		27.3			21.6			29.8			46.9	
Approach LOS		C			C			C			D	

Lanes, Volumes, Timings
1: Stallings Road/Hooks Road & Idlewild Road

2030 Build Improved

Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)	3	259	113	233	271			76	198		40	
Queue Length 95th (ft)	14	345	188	m267	m326			136	267		81	
Internal Link Dist (ft)		1203			985			1504			2032	
Turn Bay Length (ft)	275		200	250					250			
Base Capacity (vph)	258	1532	685	1087	1395			225	831		230	
Starvation Cap Reductn	0	0	0	0	11			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	0.03	0.56	0.33	0.66	0.67			0.48	0.47		0.25	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 82 (68%), Referenced to phase 2:EBTL and 6:WBT, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.76

Intersection Signal Delay: 25.2

Intersection LOS: C

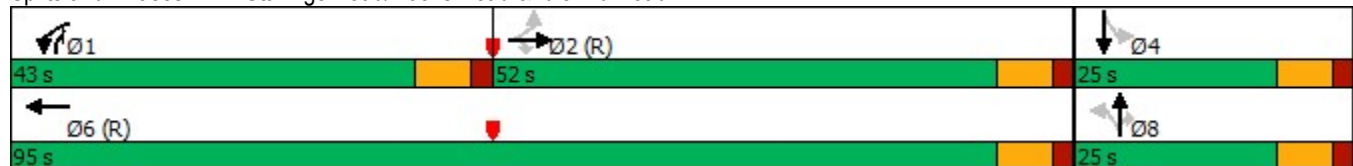
Intersection Capacity Utilization 76.3%

ICU Level of Service D

Analysis Period (min) 15

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

Splits and Phases: 1: Stallings Road/Hooks Road & Idlewild Road



Lanes, Volumes, Timings
1: Stallings Road/Hooks Road & Idlewild Road

2030 Build - Improved
Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	1069	195	499	881	19	114	8	363	49	9	4
Future Volume (vph)	5	1069	195	499	881	19	114	8	363	49	9	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	275		200	250		0	0		250	0		0
Storage Lanes	2		1	1		0	0		1	0		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.997				0.850		0.992	
Flt Protected	0.950			0.950				0.955			0.962	
Satd. Flow (prot)	1770	3539	1583	3433	1857	0	0	1779	1583	0	1778	0
Flt Permitted	0.283			0.950				0.719			0.604	
Satd. Flow (perm)	527	3539	1583	3433	1857	0	0	1339	1583	0	1116	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			45			35	
Link Distance (ft)		1283			1065			1584			2112	
Travel Time (s)		19.4			16.1			24.0			41.1	
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
Adj. Flow (vph)	6	1188	217	554	979	21	127	9	403	54	10	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	6	1188	217	554	1000	0	0	136	403	0	68	0
Turn Type	Perm	NA	Perm	Prot	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases		2		1	6			8	1		4	
Permitted Phases	2		2				8		8	4		
Detector Phase	2	2	2	1	6		8	8	1	4	4	
Switch Phase												
Minimum Initial (s)	12.0	12.0	12.0	7.0	12.0		7.0	7.0	7.0	7.0	7.0	
Minimum Split (s)	19.0	19.0	19.0	14.0	19.0		14.0	14.0	14.0	14.0	14.0	
Total Split (s)	62.0	62.0	62.0	32.0	94.0		26.0	26.0	32.0	26.0	26.0	
Total Split (%)	51.7%	51.7%	51.7%	26.7%	78.3%		21.7%	21.7%	26.7%	21.7%	21.7%	
Maximum Green (s)	55.0	55.0	55.0	25.0	87.0		19.0	19.0	25.0	19.0	19.0	
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	Lag	Lag	Lag	Lead					Lead			
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	C-Max	C-Max	C-Max	None	C-Max		Max	Max	None	Max	Max	
Act Effct Green (s)	58.7	58.7	58.7	25.3	89.0			21.0	51.3		21.0	
Actuated g/C Ratio	0.49	0.49	0.49	0.21	0.74			0.18	0.43		0.18	
v/c Ratio	0.02	0.69	0.28	0.76	0.73			0.58	0.60		0.35	
Control Delay	17.2	26.5	19.9	62.6	8.7			56.5	30.4		49.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0			0.0	0.0		0.0	
Total Delay	17.2	26.5	19.9	62.6	8.7			56.5	30.4		49.4	
LOS	B	C	B	E	A			E	C		D	
Approach Delay		25.5			27.9			37.0			49.4	
Approach LOS		C			C			D			D	

Lanes, Volumes, Timings
1: Stallings Road/Hooks Road & Idlewild Road

2030 Build - Improved

Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)	2	372	100	196	170			98	229		47	
Queue Length 95th (ft)	10	454	156	254	201			167	334		93	
Internal Link Dist (ft)		1203			985			1504			2032	
Turn Bay Length (ft)	275		200	250					250			
Base Capacity (vph)	257	1730	773	772	1377			234	699		195	
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	0.02	0.69	0.28	0.72	0.73			0.58	0.58		0.35	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 110 (92%), Referenced to phase 2:EBTL and 6:WBT, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.76

Intersection Signal Delay: 28.7

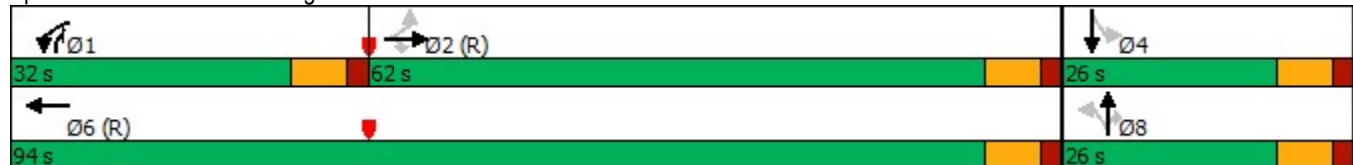
Intersection LOS: C

Intersection Capacity Utilization 80.1%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 1: Stallings Road/Hooks Road & Idlewild Road



MOVEMENT SUMMARY

Site: 101 [Idlewild Road at Stallings Road/Hooks Road (Site Folder: General)]

Idlewild Road at Stallings Road/Hooks Road - 2025 Build Improved AM
Site Category: (None)
Roundabout

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %				[Veh. veh	Dist] ft				
South: Realigned Stallings Road (NB)														
3	L2	37	2.0	41	2.0	0.077	7.0	LOS A	0.3	6.7	0.59	0.59	0.59	33.6
8	T1	4	2.0	4	2.0	0.077	7.0	LOS A	0.3	6.7	0.59	0.59	0.59	31.4
18	R2	231	2.0	257	2.0	0.389	10.8	LOS B	1.8	45.6	0.68	0.73	0.88	33.0
Approach		272	2.0	302	2.0	0.389	10.3	LOS B	1.8	45.6	0.66	0.71	0.84	33.1
East: Idlewild Road (WB)														
1	L2	513	2.0	558	2.0	0.542	8.6	LOS A	4.1	104.6	0.28	0.12	0.28	33.1
6	T1	804	2.0	874	2.0	0.542	8.6	LOS A	4.1	104.6	0.28	0.12	0.28	34.8
16	R2	5	2.0	5	2.0	0.542	8.6	LOS A	4.1	104.6	0.28	0.12	0.28	31.7
Approach		1322	2.0	1437	2.0	0.542	8.6	LOS A	4.1	104.6	0.28	0.12	0.28	34.1
North: Hooks Road														
7	L2	35	2.0	38	2.0	0.146	11.6	LOS B	0.5	11.7	0.75	0.75	0.75	29.7
4	T1	11	2.0	12	2.0	0.146	11.6	LOS B	0.5	11.7	0.75	0.75	0.75	29.7
14	R2	6	2.0	7	2.0	0.146	11.6	LOS B	0.5	11.7	0.75	0.75	0.75	29.1
Approach		52	2.0	57	2.0	0.146	11.6	LOS B	0.5	11.7	0.75	0.75	0.75	29.6
West: Idlewild Road (EB)														
5	L2	6	2.0	7	2.0	0.617	14.7	LOS B	5.3	134.3	0.77	0.95	1.33	30.2
2	T1	751	2.0	816	2.0	0.617	14.7	LOS B	5.3	134.3	0.77	0.95	1.33	32.2
12	R2	142	2.0	154	2.0	0.617	14.7	LOS B	5.3	134.3	0.77	0.95	1.33	31.2
Approach		899	2.0	977	2.0	0.617	14.7	LOS B	5.3	134.3	0.77	0.95	1.33	32.0
All Vehicles		2545	2.0	2773	2.0	0.617	11.0	LOS B	5.3	134.3	0.50	0.49	0.72	33.1

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Geometric Delay is not included).

Queue Model: HCM Queue Formula.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Idlewild Road at Stallings Road/Hooks Road (Site Folder: General)]

Idlewild Road at Stallings Road/Hooks Road - 2025 Build Improved PM

Site Category: (None)
Roundabout

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %				[Veh. veh	Dist] ft				
South: Realigned Stallings Road (NB)														
3	L2	62	2.0	69	2.0	0.180	11.1	LOS B	0.6	15.4	0.72	0.72	0.72	31.7
8	T1	8	2.0	9	2.0	0.180	11.1	LOS B	0.6	15.4	0.72	0.72	0.72	29.8
18	R2	260	2.0	289	2.0	0.585	20.0	LOS C	3.2	80.6	0.81	0.96	1.41	29.1
Approach		330	2.0	367	2.0	0.585	18.1	LOS C	3.2	80.6	0.79	0.91	1.27	29.6
East: Idlewild Road (WB)														
1	L2	377	2.0	410	2.0	0.520	8.4	LOS A	3.7	93.7	0.34	0.18	0.34	33.6
6	T1	837	2.0	910	2.0	0.520	8.4	LOS A	3.7	93.7	0.34	0.18	0.34	34.9
16	R2	19	2.0	21	2.0	0.520	8.4	LOS A	3.7	93.7	0.34	0.18	0.34	31.8
Approach		1233	2.0	1340	2.0	0.520	8.4	LOS A	3.7	93.7	0.34	0.18	0.34	34.4
North: Hooks Road														
7	L2	49	2.0	53	2.0	0.161	11.1	LOS B	0.5	13.2	0.73	0.73	0.73	29.6
4	T1	9	2.0	10	2.0	0.161	11.1	LOS B	0.5	13.2	0.73	0.73	0.73	29.7
14	R2	4	2.0	4	2.0	0.161	11.1	LOS B	0.5	13.2	0.73	0.73	0.73	29.1
Approach		62	2.0	67	2.0	0.161	11.1	LOS B	0.5	13.2	0.73	0.73	0.73	29.6
West: Idlewild Road (EB)														
5	L2	5	2.0	5	2.0	0.709	16.7	LOS C	9.0	228.4	0.82	1.08	1.57	29.4
2	T1	1045	2.0	1136	2.0	0.709	16.7	LOS C	9.0	228.4	0.82	1.08	1.57	31.3
12	R2	121	2.0	132	2.0	0.709	16.7	LOS C	9.0	228.4	0.82	1.08	1.57	30.4
Approach		1171	2.0	1273	2.0	0.709	16.7	LOS C	9.0	228.4	0.82	1.08	1.57	31.2
All Vehicles		2796	2.0	3047	2.0	0.709	13.1	LOS B	9.0	228.4	0.61	0.66	0.98	32.3

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Geometric Delay is not included).

Queue Model: HCM Queue Formula.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

APPENDIX F

Capacity Calculations

Idlewild Road and I-485 Inner Ramps

Lanes, Volumes, Timings

2: I-485 Inner On Ramp/I-485 Inner Off Ramp & Idlewild Road

2022 Existing

Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗	↖	↑↑						↖	↗
Traffic Volume (vph)	0	376	194	300	491	0	0	0	0	137	4	392
Future Volume (vph)	0	376	194	300	491	0	0	0	0	137	4	392
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-1%			0%			0%	
Storage Length (ft)	0		100	275		0	0		0	0		375
Storage Lanes	0		1	1		0	0		0	0		1
Taper Length (ft)	100			250			100			100		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frnt			0.850									0.850
Flt Protected				0.950							0.954	
Satd. Flow (prot)	0	3539	1583	1778	3557	0	0	0	0	0	1777	1583
Flt Permitted				0.404							0.954	
Satd. Flow (perm)	0	3539	1583	756	3557	0	0	0	0	0	1777	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			25			25	
Link Distance (ft)		811			860			1156			1285	
Travel Time (s)		12.3			13.0			31.5			35.0	
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
Adj. Flow (vph)	0	418	216	333	546	0	0	0	0	152	4	436
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	418	216	333	546	0	0	0	0	0	156	436
Turn Type		NA	Perm	D.P+P	NA					Split	NA	Prot
Protected Phases		2		1	6					4	4	4
Permitted Phases			2	2								
Detector Phase		2	2	1	6					4	4	4
Switch Phase												
Minimum Initial (s)		12.0	12.0	7.0	12.0					7.0	7.0	7.0
Minimum Split (s)		17.7	17.7	12.3	17.7					12.8	12.8	12.8
Total Split (s)		55.0	55.0	15.0	70.0					20.0	20.0	20.0
Total Split (%)		61.1%	61.1%	16.7%	77.8%					22.2%	22.2%	22.2%
Maximum Green (s)		49.3	49.3	9.7	64.3					14.2	14.2	14.2
Yellow Time (s)		4.5	4.5	3.0	4.5					3.8	3.8	3.8
All-Red Time (s)		1.2	1.2	2.3	1.2					2.0	2.0	2.0
Lost Time Adjust (s)		-0.7	-0.7	-0.3	-0.7						-0.8	-0.8
Total Lost Time (s)		5.0	5.0	5.0	5.0						5.0	5.0
Lead/Lag		Lead	Lead	Lag								
Lead-Lag Optimize?		Yes	Yes	Yes								
Vehicle Extension (s)		6.0	6.0	2.0	6.0					2.0	2.0	2.0
Minimum Gap (s)		3.0	3.0	2.0	3.0					2.0	2.0	2.0
Time Before Reduce (s)		15.0	15.0	0.0	15.0					0.0	0.0	0.0
Time To Reduce (s)		30.0	30.0	0.0	30.0					0.0	0.0	0.0
Recall Mode		C-Min	C-Min	None	C-Min					None	None	None
Act Effect Green (s)		22.2	22.2	34.5	39.5						40.5	40.5
Actuated g/C Ratio		0.25	0.25	0.38	0.44						0.45	0.45
v/c Ratio		0.48	0.55	0.78	0.35						0.20	0.61
Control Delay		30.1	34.3	47.3	22.9						18.4	26.2
Queue Delay		0.0	0.0	0.0	0.0						0.0	0.0

Lanes, Volumes, Timings

2: I-485 Inner On Ramp/I-485 Inner Off Ramp & Idlewild Road

2022 Existing

Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		30.1	34.3	47.3	22.9						18.4	26.2
LOS		C	C	D	C						B	C
Approach Delay		31.5			32.1						24.1	
Approach LOS		C			C						C	
Queue Length 50th (ft)		101	101	172	143						56	197
Queue Length 95th (ft)		146	172	232	164						107	#343
Internal Link Dist (ft)		731			780			1076			1205	
Turn Bay Length (ft)			100	275								375
Base Capacity (vph)		1966	879	439	2568						799	712
Starvation Cap Reductn		0	0	0	0						0	0
Spillback Cap Reductn		0	0	0	0						0	0
Storage Cap Reductn		0	0	0	0						0	0
Reduced v/c Ratio		0.21	0.25	0.76	0.21						0.20	0.61

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 13 (14%), Referenced to phase 2:EBWB and 6:WBT, Start of Green

Natural Cycle: 55

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.78

Intersection Signal Delay: 29.7

Intersection LOS: C

Intersection Capacity Utilization 48.9%

ICU Level of Service A

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 2: I-485 Inner On Ramp/I-485 Inner Off Ramp & Idlewild Road

			
Ø2 (R)		Ø1	Ø4
55 s		15 s	20 s
			
Ø6 (R)			
70 s			

Lanes, Volumes, Timings

2: I-485 Inner On Ramp/I-485 Inner Off Ramp & Idlewild Road

05/25/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑	↑↑						↑	↑
Traffic Volume (vph)	0	739	154	170	591	0	0	0	0	242	4	189
Future Volume (vph)	0	739	154	170	591	0	0	0	0	242	4	189
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-1%			0%			0%	
Storage Length (ft)	0		100	275		0	0		0	0		375
Storage Lanes	0		1	1		0	0		0	0		1
Taper Length (ft)	100			250			100			100		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frnt			0.850									0.850
Flt Protected				0.950							0.953	
Satd. Flow (prot)	0	3539	1583	1778	3557	0	0	0	0	0	1775	1583
Flt Permitted				0.276							0.953	
Satd. Flow (perm)	0	3539	1583	517	3557	0	0	0	0	0	1775	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			25			25	
Link Distance (ft)		811			860			1156			1285	
Travel Time (s)		12.3			13.0			31.5			35.0	
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
Adj. Flow (vph)	0	821	171	189	657	0	0	0	0	269	4	210
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	821	171	189	657	0	0	0	0	0	273	210
Turn Type		NA	Perm	D.P+P	NA					Split	NA	Prot
Protected Phases		2		1	6					4	4	4
Permitted Phases			2	2								
Detector Phase		2	2	1	6					4	4	4
Switch Phase												
Minimum Initial (s)		12.0	12.0	7.0	12.0					7.0	7.0	7.0
Minimum Split (s)		17.7	17.7	12.3	17.7					12.8	12.8	12.8
Total Split (s)		55.0	55.0	15.0	70.0					20.0	20.0	20.0
Total Split (%)		61.1%	61.1%	16.7%	77.8%					22.2%	22.2%	22.2%
Maximum Green (s)		49.3	49.3	9.7	64.3					14.2	14.2	14.2
Yellow Time (s)		4.5	4.5	3.0	4.5					3.8	3.8	3.8
All-Red Time (s)		1.2	1.2	2.3	1.2					2.0	2.0	2.0
Lost Time Adjust (s)		-0.7	-0.7	-0.3	-0.7						-0.8	-0.8
Total Lost Time (s)		5.0	5.0	5.0	5.0						5.0	5.0
Lead/Lag		Lead	Lead	Lag								
Lead-Lag Optimize?		Yes	Yes	Yes								
Vehicle Extension (s)		6.0	6.0	2.0	6.0					2.0	2.0	2.0
Minimum Gap (s)		3.0	3.0	2.0	3.0					2.0	2.0	2.0
Time Before Reduce (s)		15.0	15.0	0.0	15.0					0.0	0.0	0.0
Time To Reduce (s)		30.0	30.0	0.0	30.0					0.0	0.0	0.0
Recall Mode		C-Min	C-Min	None	C-Min					None	None	None
Act Effect Green (s)		46.2	46.2	54.5	59.5						20.5	20.5
Actuated g/C Ratio		0.51	0.51	0.61	0.66						0.23	0.23
v/c Ratio		0.45	0.21	0.44	0.28						0.68	0.58
Control Delay		15.7	14.1	8.1	2.4						40.2	37.4
Queue Delay		0.0	0.0	0.0	0.0						0.0	0.0

Lanes, Volumes, Timings

2: I-485 Inner On Ramp/I-485 Inner Off Ramp & Idlewild Road

05/25/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		15.7	14.1	8.1	2.4						40.2	37.4
LOS		B	B	A	A						D	D
Approach Delay		15.5			3.7						39.0	
Approach LOS		B			A						D	
Queue Length 50th (ft)		145	50	7	13						141	106
Queue Length 95th (ft)		230	104	m35	15						214	169
Internal Link Dist (ft)		731			780			1076			1205	
Turn Bay Length (ft)			100	275								375
Base Capacity (vph)		1985	887	467	2568						403	360
Starvation Cap Reductn		0	0	0	0						0	0
Spillback Cap Reductn		0	0	0	0						0	0
Storage Cap Reductn		0	0	0	0						0	0
Reduced v/c Ratio		0.41	0.19	0.40	0.26						0.68	0.58

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 85 (94%), Referenced to phase 2:EBWB and 6:WBT, Start of Green

Natural Cycle: 55

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.68

Intersection Signal Delay: 16.1

Intersection LOS: B

Intersection Capacity Utilization 56.0%

ICU Level of Service B

Analysis Period (min) 15

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

Splits and Phases: 2: I-485 Inner On Ramp/I-485 Inner Off Ramp & Idlewild Road

 Ø2 (R)	 Ø1	 Ø4
55 s	15 s	20 s
 Ø6 (R)		
70 s		

Stevens Mill and Idlewild Crossing - Stallings, NC
2: I-485 Inner On Ramp/I-485 Inner Off Ramp & Idlewild Road

2025 No-Build
Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗	↖	↑↑						↖	↗↗
Traffic Volume (vph)	0	678	273	490	814	0	0	0	0	265	4	451
Future Volume (vph)	0	678	273	490	814	0	0	0	0	265	4	451
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-1%			0%			0%	
Storage Length (ft)	0		100	275		0	0		0	0		400
Storage Lanes	0		1	1		0	0		0	0		2
Taper Length (ft)	100			250			100			100		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	0.88
Fr _t			0.850									0.850
Fl _t Protected				0.950							0.953	
Satd. Flow (prot)	0	3539	1583	1778	3557	0	0	0	0	0	1775	2787
Fl _t Permitted				0.950							0.953	
Satd. Flow (perm)	0	3539	1583	1778	3557	0	0	0	0	0	1775	2787
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			50			50	
Link Distance (ft)		1065			860			1156			1285	
Travel Time (s)		16.1			13.0			15.8			17.5	
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
Adj. Flow (vph)	0	753	303	544	904	0	0	0	0	294	4	501
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	753	303	544	904	0	0	0	0	0	298	501
Turn Type		NA	Perm	Prot	NA					Split	NA	Prot
Protected Phases		2		1	6					4	4	4
Permitted Phases			2									
Detector Phase		2	2	1	6					4	4	4
Switch Phase												
Minimum Initial (s)		12.0	12.0	7.0	12.0					7.0	7.0	7.0
Minimum Split (s)		19.0	19.0	14.0	19.0					14.0	14.0	14.0
Total Split (s)		38.0	38.0	50.0	88.0					32.0	32.0	32.0
Total Split (%)		31.7%	31.7%	41.7%	73.3%					26.7%	26.7%	26.7%
Maximum Green (s)		31.0	31.0	43.0	81.0					25.0	25.0	25.0
Yellow Time (s)		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
Lost Time Adjust (s)		-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
Lead/Lag		Lag	Lag	Lead								
Lead-Lag Optimize?												
Vehicle Extension (s)		6.0	6.0	3.0	6.0					2.0	2.0	2.0
Recall Mode		C-Max	C-Max	None	C-Max					None	None	None
Act Effect Green (s)		37.7	37.7	41.7	84.4						25.6	25.6
Actuated g/C Ratio		0.31	0.31	0.35	0.70						0.21	0.21
v/c Ratio		0.68	0.61	0.88	0.36						0.79	0.84
Control Delay		30.5	32.2	32.5	3.0						60.2	59.2
Queue Delay		0.0	0.0	0.0	0.0						0.0	0.0
Total Delay		30.5	32.2	32.5	3.0						60.2	59.2
LOS		C	C	C	A						E	E
Approach Delay		31.0			14.1						59.6	

Stevens Mill and Idlewild Crossing - Stallings, NC
 2: I-485 Inner On Ramp/I-485 Inner Off Ramp & Idlewild Road

2025 No-Build
 Timing Plan: AM Peak Hour

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group												
Approach LOS		C			B						E	
Queue Length 50th (ft)		287	176	314	106						216	209
Queue Length 95th (ft)		211	198	#474	1						#337	#284
Internal Link Dist (ft)		985			780			1076			1205	
Turn Bay Length (ft)			100	275								400
Base Capacity (vph)		1112	497	666	2503						399	627
Starvation Cap Reductn		0	0	0	0						0	0
Spillback Cap Reductn		0	0	0	0						0	0
Storage Cap Reductn		0	0	0	0						0	0
Reduced v/c Ratio		0.68	0.61	0.82	0.36						0.75	0.80

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 85 (71%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.88

Intersection Signal Delay: 30.5

Intersection LOS: C

Intersection Capacity Utilization 73.3%

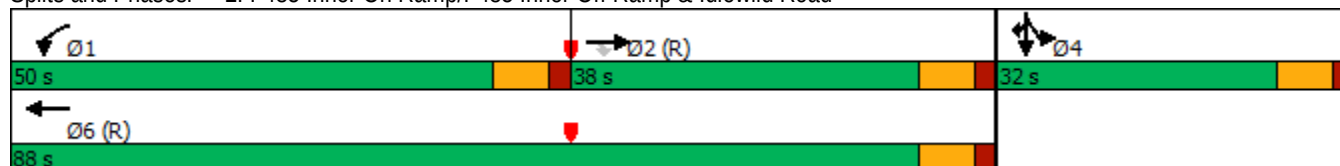
ICU Level of Service D

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 2: I-485 Inner On Ramp/I-485 Inner Off Ramp & Idlewild Road



Stevens Mill and Idlewild Crossing - Stallings, NC
2: I-485 Inner On Ramp/I-485 Inner Off Ramp & Idlewild Road

2025 No-Build
Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑	↑↑						↑	↑↑
Traffic Volume (vph)	0	1038	223	311	887	0	0	0	0	368	4	254
Future Volume (vph)	0	1038	223	311	887	0	0	0	0	368	4	254
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-1%			0%			0%	
Storage Length (ft)	0		100	275		0	0		0	0		400
Storage Lanes	0		1	1		0	0		0	0		2
Taper Length (ft)	100			250			100			100		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	0.88
Fr _t			0.850									0.850
Fl _t Protected				0.950							0.953	
Satd. Flow (prot)	0	3539	1583	1778	3557	0	0	0	0	0	1775	2787
Fl _t Permitted				0.950							0.953	
Satd. Flow (perm)	0	3539	1583	1778	3557	0	0	0	0	0	1775	2787
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			50			50	
Link Distance (ft)		1065			860			1156			1285	
Travel Time (s)		16.1			13.0			15.8			17.5	
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
Adj. Flow (vph)	0	1153	248	346	986	0	0	0	0	409	4	282
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1153	248	346	986	0	0	0	0	0	413	282
Turn Type		NA	Perm	Prot	NA					Split	NA	Prot
Protected Phases		2		1	6					4	4	4
Permitted Phases			2									
Detector Phase		2	2	1	6					4	4	4
Switch Phase												
Minimum Initial (s)		12.0	12.0	7.0	12.0					7.0	7.0	7.0
Minimum Split (s)		19.0	19.0	14.0	19.0					14.0	14.0	14.0
Total Split (s)		58.0	58.0	38.0	96.0					44.0	44.0	44.0
Total Split (%)		41.4%	41.4%	27.1%	68.6%					31.4%	31.4%	31.4%
Maximum Green (s)		51.0	51.0	31.0	89.0					37.0	37.0	37.0
Yellow Time (s)		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
Lost Time Adjust (s)		-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
Lead/Lag		Lag	Lag	Lead								
Lead-Lag Optimize?												
Vehicle Extension (s)		6.0	6.0	3.0	6.0					2.0	2.0	2.0
Recall Mode		C-Max	C-Max	None	C-Max					None	None	None
Act Effect Green (s)		57.3	57.3	31.2	93.5						36.5	36.5
Actuated g/C Ratio		0.41	0.41	0.22	0.67						0.26	0.26
v/c Ratio		0.80	0.38	0.87	0.41						0.89	0.39
Control Delay		32.6	27.1	54.5	3.8						72.1	43.8
Queue Delay		0.0	0.0	0.0	0.0						0.0	0.0
Total Delay		32.6	27.1	54.5	3.8						72.1	43.8
LOS		C	C	D	A						E	D
Approach Delay		31.6			16.9						60.6	

Stevens Mill and Idlewild Crossing - Stallings, NC
 2: I-485 Inner On Ramp/I-485 Inner Off Ramp & Idlewild Road

2025 No-Build
 Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		C			B						E	
Queue Length 50th (ft)		297	118	270	220						355	117
Queue Length 95th (ft)		393	193	#444	0						#525	164
Internal Link Dist (ft)		985			780			1076			1205	
Turn Bay Length (ft)			100	275								400
Base Capacity (vph)		1448	647	419	2376						494	776
Starvation Cap Reductn		0	0	0	0						0	0
Spillback Cap Reductn		0	0	0	0						0	0
Storage Cap Reductn		0	0	0	0						0	0
Reduced v/c Ratio		0.80	0.38	0.83	0.41						0.84	0.36

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 64 (46%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.89

Intersection Signal Delay: 31.8

Intersection LOS: C

Intersection Capacity Utilization 79.0%

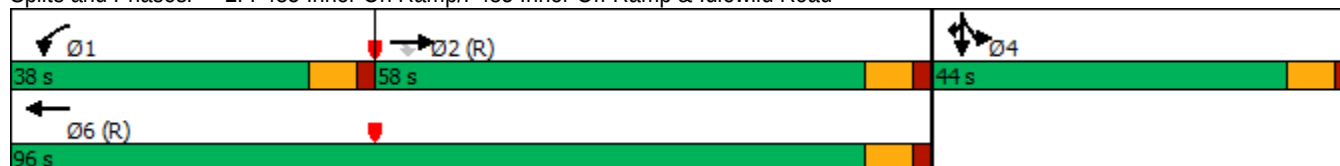
ICU Level of Service D

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 2: I-485 Inner On Ramp/I-485 Inner Off Ramp & Idlewild Road



Stevens Mill and Idlewild Crossing - Stallings, NC
2: I-485 Inner On Ramp/I-485 Inner Off Ramp & Idlewild Road

2025 Build
Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗	↖	↑↑						↖	↗↗
Traffic Volume (vph)	0	744	273	504	871	0	0	0	0	281	4	451
Future Volume (vph)	0	744	273	504	871	0	0	0	0	281	4	451
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-1%			0%			0%	
Storage Length (ft)	0		100	275		0	0		0	0		400
Storage Lanes	0		1	1		0	0		0	0		2
Taper Length (ft)	100			250			100			100		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	0.88
Fr _t			0.850									0.850
Fl _t Protected				0.950							0.953	
Satd. Flow (prot)	0	3539	1583	1778	3557	0	0	0	0	0	1775	2787
Fl _t Permitted				0.950							0.953	
Satd. Flow (perm)	0	3539	1583	1778	3557	0	0	0	0	0	1775	2787
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			50			50	
Link Distance (ft)		1065			860			1156			1285	
Travel Time (s)		16.1			13.0			15.8			17.5	
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
Adj. Flow (vph)	0	827	303	560	968	0	0	0	0	312	4	501
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	827	303	560	968	0	0	0	0	0	316	501
Turn Type		NA	Perm	Prot	NA					Split	NA	Prot
Protected Phases		2		1	6					4	4	4
Permitted Phases			2									
Detector Phase		2	2	1	6					4	4	4
Switch Phase												
Minimum Initial (s)		12.0	12.0	7.0	12.0					7.0	7.0	7.0
Minimum Split (s)		19.0	19.0	14.0	19.0					14.0	14.0	14.0
Total Split (s)		38.0	38.0	50.0	88.0					32.0	32.0	32.0
Total Split (%)		31.7%	31.7%	41.7%	73.3%					26.7%	26.7%	26.7%
Maximum Green (s)		31.0	31.0	43.0	81.0					25.0	25.0	25.0
Yellow Time (s)		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
Lost Time Adjust (s)		-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
Lead/Lag		Lag	Lag	Lead								
Lead-Lag Optimize?												
Vehicle Extension (s)		6.0	6.0	3.0	6.0					2.0	2.0	2.0
Recall Mode		C-Max	C-Max	None	C-Max					None	None	None
Act Effect Green (s)		37.1	37.1	42.3	84.4						25.6	25.6
Actuated g/C Ratio		0.31	0.31	0.35	0.70						0.21	0.21
v/c Ratio		0.76	0.62	0.89	0.39						0.84	0.84
Control Delay		33.1	32.4	35.7	3.1						64.8	59.2
Queue Delay		0.0	0.0	0.0	0.0						0.0	0.0
Total Delay		33.1	32.4	35.7	3.1						64.8	59.2
LOS		C	C	D	A						E	E
Approach Delay		32.9			15.0						61.3	

Stevens Mill and Idlewild Crossing - Stallings, NC
 2: I-485 Inner On Ramp/I-485 Inner Off Ramp & Idlewild Road

2025 Build
 Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	C					B					E	
Queue Length 50th (ft)		333	170	345	144						232	209
Queue Length 95th (ft)		#262	184	#568	1						#368	#284
Internal Link Dist (ft)		985			780			1076			1205	
Turn Bay Length (ft)			100	275								400
Base Capacity (vph)		1094	489	666	2503						399	627
Starvation Cap Reductn		0	0	0	0						0	0
Spillback Cap Reductn		0	0	0	0						0	0
Storage Cap Reductn		0	0	0	0						0	0
Reduced v/c Ratio		0.76	0.62	0.84	0.39						0.79	0.80

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 85 (71%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.89

Intersection Signal Delay: 31.7

Intersection LOS: C

Intersection Capacity Utilization 76.8%

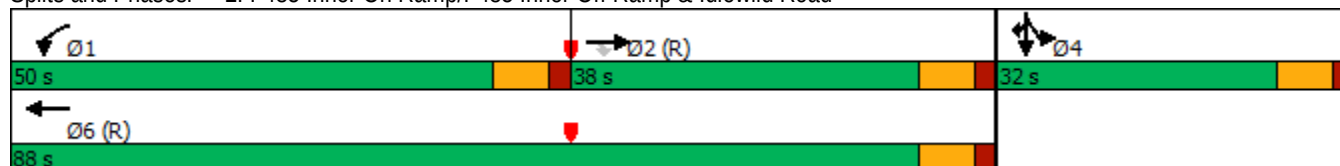
ICU Level of Service D

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 2: I-485 Inner On Ramp/I-485 Inner Off Ramp & Idlewild Road



Stevens Mill and Idlewild Crossing - Stallings, NC
2: I-485 Inner On Ramp/I-485 Inner Off Ramp & Idlewild Road

2025 Build
Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗	↖	↑↑						↖	↗↗
Traffic Volume (vph)	0	1131	223	334	979	0	0	0	0	391	4	254
Future Volume (vph)	0	1131	223	334	979	0	0	0	0	391	4	254
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-1%			0%			0%	
Storage Length (ft)	0		100	275		0	0		0	0		400
Storage Lanes	0		1	1		0	0		0	0		2
Taper Length (ft)	100			250			100			100		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	0.88
Fr't			0.850									0.850
Flt Protected				0.950							0.953	
Satd. Flow (prot)	0	3539	1583	1778	3557	0	0	0	0	0	1775	2787
Flt Permitted				0.950							0.953	
Satd. Flow (perm)	0	3539	1583	1778	3557	0	0	0	0	0	1775	2787
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			50			50	
Link Distance (ft)		1065			860			1156			1285	
Travel Time (s)		16.1			13.0			15.8			17.5	
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
Adj. Flow (vph)	0	1257	248	371	1088	0	0	0	0	434	4	282
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1257	248	371	1088	0	0	0	0	0	438	282
Turn Type		NA	Perm	Prot	NA					Split	NA	Prot
Protected Phases		2		1	6					4	4	4
Permitted Phases			2									
Detector Phase		2	2	1	6					4	4	4
Switch Phase												
Minimum Initial (s)		12.0	12.0	7.0	12.0					7.0	7.0	7.0
Minimum Split (s)		19.0	19.0	14.0	19.0					14.0	14.0	14.0
Total Split (s)		58.0	58.0	38.0	96.0					44.0	44.0	44.0
Total Split (%)		41.4%	41.4%	27.1%	68.6%					31.4%	31.4%	31.4%
Maximum Green (s)		51.0	51.0	31.0	89.0					37.0	37.0	37.0
Yellow Time (s)		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
Lost Time Adjust (s)		-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
Lead/Lag		Lag	Lag	Lead								
Lead-Lag Optimize?												
Vehicle Extension (s)		6.0	6.0	3.0	6.0					2.0	2.0	2.0
Recall Mode		C-Max	C-Max	None	C-Max					None	None	None
Act Effect Green (s)		55.2	55.2	32.3	92.5						37.5	37.5
Actuated g/C Ratio		0.39	0.39	0.23	0.66						0.27	0.27
v/c Ratio		0.90	0.40	0.91	0.46						0.92	0.38
Control Delay		40.6	29.5	59.6	3.9						75.5	43.1
Queue Delay		0.0	0.0	0.0	0.0						0.0	0.0
Total Delay		40.6	29.5	59.6	3.9						75.5	43.1
LOS		D	C	E	A						E	D
Approach Delay		38.8			18.1						62.8	

Stevens Mill and Idlewild Crossing - Stallings, NC
 2: I-485 Inner On Ramp/I-485 Inner Off Ramp & Idlewild Road

2025 Build
 Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		D			B						E	
Queue Length 50th (ft)		325	118	293	180						384	117
Queue Length 95th (ft)		#705	201	#496	0						#576	164
Internal Link Dist (ft)		985			780			1076			1205	
Turn Bay Length (ft)			100	275								400
Base Capacity (vph)		1395	624	421	2349						494	776
Starvation Cap Reductn		0	0	0	0						0	0
Spillback Cap Reductn		0	0	0	0						0	0
Storage Cap Reductn		0	0	0	0						0	0
Reduced v/c Ratio		0.90	0.40	0.88	0.46						0.89	0.36

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 64 (46%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.92

Intersection Signal Delay: 35.3

Intersection LOS: D

Intersection Capacity Utilization 84.1%

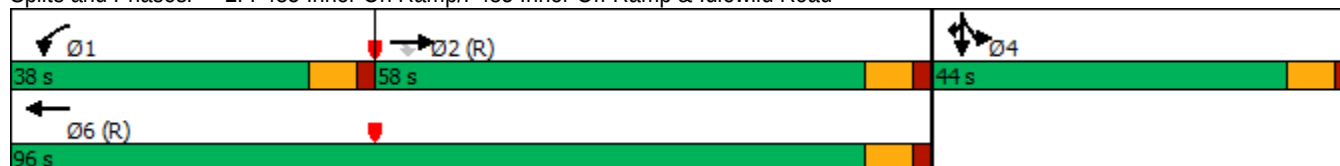
ICU Level of Service E

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 2: I-485 Inner On Ramp/I-485 Inner Off Ramp & Idlewild Road



Lanes, Volumes, Timings

2: I-485 Inner On Ramp/I-485 Inner Off Ramp & Idlewild Road

2025 Build Improved

Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗	↖	↑↑						↖	↗↗
Traffic Volume (vph)	0	744	273	504	871	0	0	0	0	281	4	451
Future Volume (vph)	0	744	273	504	871	0	0	0	0	281	4	451
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-1%			0%			0%	
Storage Length (ft)	0		100	275		0	0		0	0		400
Storage Lanes	0		1	1		0	0		0	0		2
Taper Length (ft)	100			250			100			100		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	0.88
Frt			0.850									0.850
Flt Protected				0.950							0.953	
Satd. Flow (prot)	0	3539	1583	1778	3557	0	0	0	0	0	1775	2787
Flt Permitted				0.950							0.953	
Satd. Flow (perm)	0	3539	1583	1778	3557	0	0	0	0	0	1775	2787
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			50			50	
Link Distance (ft)		1065			860			1156			1285	
Travel Time (s)		16.1			13.0			15.8			17.5	
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
Adj. Flow (vph)	0	827	303	560	968	0	0	0	0	312	4	501
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	827	303	560	968	0	0	0	0	0	316	501
Turn Type		NA	Perm	Prot	NA					Split	NA	Prot
Protected Phases		2		1	6					4	4	4
Permitted Phases			2									
Detector Phase		2	2	1	6					4	4	4
Switch Phase												
Minimum Initial (s)		12.0	12.0	7.0	12.0					7.0	7.0	7.0
Minimum Split (s)		19.0	19.0	14.0	19.0					14.0	14.0	14.0
Total Split (s)		38.0	38.0	50.0	88.0					32.0	32.0	32.0
Total Split (%)		31.7%	31.7%	41.7%	73.3%					26.7%	26.7%	26.7%
Maximum Green (s)		31.0	31.0	43.0	81.0					25.0	25.0	25.0
Yellow Time (s)		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
Lost Time Adjust (s)		-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
Lead/Lag		Lag	Lag	Lead								
Lead-Lag Optimize?												
Vehicle Extension (s)		6.0	6.0	3.0	6.0					2.0	2.0	2.0
Recall Mode		C-Max	C-Max	None	C-Max					None	None	None
Act Effect Green (s)		37.1	37.1	42.3	84.4						25.6	25.6
Actuated g/C Ratio		0.31	0.31	0.35	0.70						0.21	0.21
v/c Ratio		0.76	0.62	0.89	0.39						0.84	0.84
Control Delay		33.1	32.4	33.2	2.7						64.8	59.2
Queue Delay		0.0	0.0	0.0	0.0						0.0	0.0
Total Delay		33.1	32.4	33.2	2.7						64.8	59.2
LOS		C	C	C	A						E	E
Approach Delay		32.9			13.9						61.3	

Lanes, Volumes, Timings

2: I-485 Inner On Ramp/I-485 Inner Off Ramp & Idlewild Road

2025 Build Improved

Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	C					B					E	
Queue Length 50th (ft)		333	183	372	101						232	209
Queue Length 95th (ft)		#271	190	#573	1						#368	#284
Internal Link Dist (ft)		985			780			1076			1205	
Turn Bay Length (ft)			100	275								400
Base Capacity (vph)		1094	489	666	2503						399	627
Starvation Cap Reductn		0	0	0	0						0	0
Spillback Cap Reductn		0	0	0	0						0	0
Storage Cap Reductn		0	0	0	0						0	0
Reduced v/c Ratio		0.76	0.62	0.84	0.39						0.79	0.80

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 92 (77%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.89

Intersection Signal Delay: 31.2

Intersection LOS: C

Intersection Capacity Utilization 76.8%

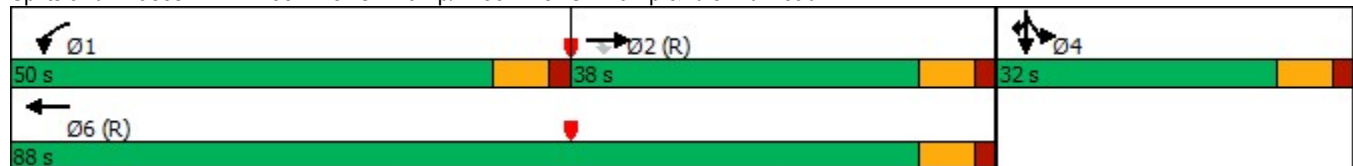
ICU Level of Service D

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 2: I-485 Inner On Ramp/I-485 Inner Off Ramp & Idlewild Road



Lanes, Volumes, Timings

2: I-485 Inner On Ramp/I-485 Inner Off Ramp & Idlewild Road

2025 Build - Improved

Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑	↑↑						↑	↑↑
Traffic Volume (vph)	0	1131	223	334	979	0	0	0	0	391	4	254
Future Volume (vph)	0	1131	223	334	979	0	0	0	0	391	4	254
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-1%			0%			0%	
Storage Length (ft)	0		100	275		0	0		0	0		400
Storage Lanes	0		1	1		0	0		0	0		2
Taper Length (ft)	100			250			100			100		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	0.88
Frt			0.850									0.850
Flt Protected				0.950							0.953	
Satd. Flow (prot)	0	3539	1583	1778	3557	0	0	0	0	0	1775	2787
Flt Permitted				0.950							0.953	
Satd. Flow (perm)	0	3539	1583	1778	3557	0	0	0	0	0	1775	2787
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			50			50	
Link Distance (ft)		1065			860			1156			1285	
Travel Time (s)		16.1			13.0			15.8			17.5	
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
Adj. Flow (vph)	0	1257	248	371	1088	0	0	0	0	434	4	282
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1257	248	371	1088	0	0	0	0	0	438	282
Turn Type		NA	Perm	Prot	NA					Split	NA	Prot
Protected Phases		2		1	6					4	4	4
Permitted Phases			2									
Detector Phase		2	2	1	6					4	4	4
Switch Phase												
Minimum Initial (s)		12.0	12.0	7.0	12.0					7.0	7.0	7.0
Minimum Split (s)		19.0	19.0	14.0	19.0					14.0	14.0	14.0
Total Split (s)		60.0	60.0	37.0	97.0					43.0	43.0	43.0
Total Split (%)		42.9%	42.9%	26.4%	69.3%					30.7%	30.7%	30.7%
Maximum Green (s)		53.0	53.0	30.0	90.0					36.0	36.0	36.0
Yellow Time (s)		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
Lost Time Adjust (s)		-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
Lead/Lag		Lag	Lag	Lead								
Lead-Lag Optimize?												
Vehicle Extension (s)		6.0	6.0	3.0	6.0					2.0	2.0	2.0
Recall Mode		C-Max	C-Max	None	C-Max					None	None	None
Act Effect Green (s)		56.5	56.5	31.5	93.0						37.0	37.0
Actuated g/C Ratio		0.40	0.40	0.22	0.66						0.26	0.26
v/c Ratio		0.88	0.39	0.93	0.46						0.94	0.38
Control Delay		38.2	28.9	62.9	6.9						78.4	43.7
Queue Delay		0.0	0.0	0.0	0.0						0.0	0.0
Total Delay		38.2	28.9	62.9	6.9						78.4	43.7
LOS		D	C	E	A						E	D
Approach Delay		36.6			21.1						64.8	

Lanes, Volumes, Timings

2: I-485 Inner On Ramp/I-485 Inner Off Ramp & Idlewild Road

2025 Build - Improved

Timing Plan: PM Peak Hour

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group												
Approach LOS		D			C						E	
Queue Length 50th (ft)		325	117	322	322						388	118
Queue Length 95th (ft)		#474	204	#510	122						#588	167
Internal Link Dist (ft)		985			780			1076			1205	
Turn Bay Length (ft)			100	275								400
Base Capacity (vph)		1429	638	406	2362						481	756
Starvation Cap Reductn		0	0	0	0						0	0
Spillback Cap Reductn		0	0	0	0						0	0
Storage Cap Reductn		0	0	0	0						0	0
Reduced v/c Ratio		0.88	0.39	0.91	0.46						0.91	0.37

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 84 (60%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.94

Intersection Signal Delay: 36.0

Intersection LOS: D

Intersection Capacity Utilization 84.1%

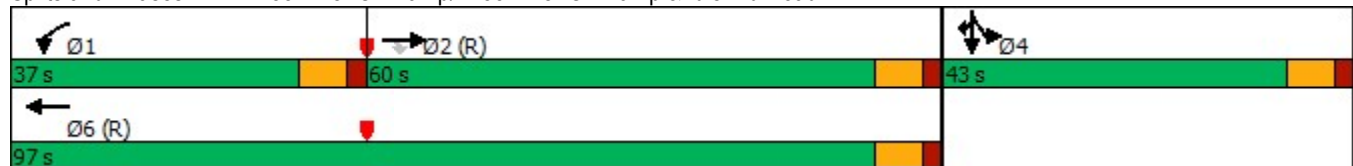
ICU Level of Service E

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 2: I-485 Inner On Ramp/I-485 Inner Off Ramp & Idlewild Road



Lanes, Volumes, Timings
2: I-485 Inner On Ramp/I-485 Inner Off Ramp & Idlewild Road

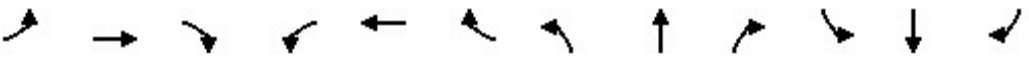
2030 Build Improved

Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗	↖	↑↑						↖	↗↗
Traffic Volume (vph)	0	853	335	520	979	0	0	0	0	288	4	504
Future Volume (vph)	0	853	335	520	979	0	0	0	0	288	4	504
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-1%			0%			0%	
Storage Length (ft)	0		100	275		0	0		0	0		400
Storage Lanes	0		1	1		0	0		0	0		2
Taper Length (ft)	100			250			100			100		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	0.88
Frt			0.850									0.850
Flt Protected				0.950							0.953	
Satd. Flow (prot)	0	3539	1583	1778	3557	0	0	0	0	0	1775	2787
Flt Permitted				0.950							0.953	
Satd. Flow (perm)	0	3539	1583	1778	3557	0	0	0	0	0	1775	2787
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			50			50	
Link Distance (ft)		1065			860			1156			1285	
Travel Time (s)		16.1			13.0			15.8			17.5	
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
Adj. Flow (vph)	0	948	372	578	1088	0	0	0	0	320	4	560
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	948	372	578	1088	0	0	0	0	0	324	560
Turn Type		NA	Perm	Prot	NA					Split	NA	Prot
Protected Phases		2		1	6					4	4	4
Permitted Phases			2									
Detector Phase		2	2	1	6					4	4	4
Switch Phase												
Minimum Initial (s)		12.0	12.0	7.0	12.0					7.0	7.0	7.0
Minimum Split (s)		19.0	19.0	14.0	19.0					14.0	14.0	14.0
Total Split (s)		41.0	41.0	48.0	89.0					31.0	31.0	31.0
Total Split (%)		34.2%	34.2%	40.0%	74.2%					25.8%	25.8%	25.8%
Maximum Green (s)		34.0	34.0	41.0	82.0					24.0	24.0	24.0
Yellow Time (s)		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
Lost Time Adjust (s)		-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
Lead/Lag		Lag	Lag	Lead								
Lead-Lag Optimize?												
Vehicle Extension (s)		6.0	6.0	3.0	6.0					2.0	2.0	2.0
Recall Mode		C-Max	C-Max	None	C-Max					None	None	None
Act Effect Green (s)		37.2	37.2	41.9	84.1						25.9	25.9
Actuated g/C Ratio		0.31	0.31	0.35	0.70						0.22	0.22
v/c Ratio		0.86	0.76	0.93	0.44						0.85	0.93
Control Delay		37.8	37.5	37.4	2.7						66.1	70.1
Queue Delay		0.0	0.0	0.0	0.0						0.0	0.0
Total Delay		37.8	37.5	37.4	2.7						66.1	70.1
LOS		D	D	D	A						E	E
Approach Delay		37.7			14.7						68.6	

Lanes, Volumes, Timings
2: I-485 Inner On Ramp/I-485 Inner Off Ramp & Idlewild Road

2030 Build Improved
Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	D					B					E	
Queue Length 50th (ft)		387	236	345	49						242	243
Queue Length 95th (ft)		#467	#344	m#618	45						#394	#360
Internal Link Dist (ft)		985			780			1076			1205	
Turn Bay Length (ft)			100	275								400
Base Capacity (vph)		1096	490	637	2493						384	603
Starvation Cap Reductn		0	0	0	0						0	0
Spillback Cap Reductn		0	0	0	0						0	0
Storage Cap Reductn		0	0	0	0						0	0
Reduced v/c Ratio		0.86	0.76	0.91	0.44						0.84	0.93

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 93 (78%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.93

Intersection Signal Delay: 34.9

Intersection LOS: C

Intersection Capacity Utilization 81.1%

ICU Level of Service D

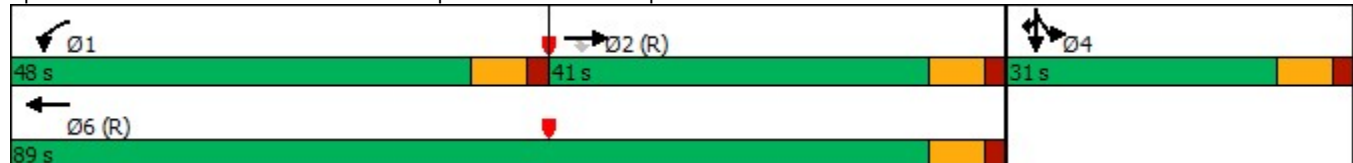
Analysis Period (min) 15

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.

Splits and Phases: 2: I-485 Inner On Ramp/I-485 Inner Off Ramp & Idlewild Road



Lanes, Volumes, Timings

2: I-485 Inner On Ramp/I-485 Inner Off Ramp & Idlewild Road

2030 Build - Improved

Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑	↑↑						↑	↑↑
Traffic Volume (vph)	0	1231	268	343	1099	0	0	0	0	404	4	300
Future Volume (vph)	0	1231	268	343	1099	0	0	0	0	404	4	300
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-1%			0%			0%	
Storage Length (ft)	0		100	275		0	0		0	0		400
Storage Lanes	0		1	1		0	0		0	0		2
Taper Length (ft)	100			250			100			100		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	0.88
Frt			0.850									0.850
Flt Protected				0.950							0.953	
Satd. Flow (prot)	0	3539	1583	1778	3557	0	0	0	0	0	1775	2787
Flt Permitted				0.950							0.953	
Satd. Flow (perm)	0	3539	1583	1778	3557	0	0	0	0	0	1775	2787
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			50			50	
Link Distance (ft)		1065			860			1156			1285	
Travel Time (s)		16.1			13.0			15.8			17.5	
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
Adj. Flow (vph)	0	1368	298	381	1221	0	0	0	0	449	4	333
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1368	298	381	1221	0	0	0	0	0	453	333
Turn Type		NA	Perm	Prot	NA					Split	NA	Prot
Protected Phases		2		1	6					4	4	4
Permitted Phases			2									
Detector Phase		2	2	1	6					4	4	4
Switch Phase												
Minimum Initial (s)		12.0	12.0	7.0	12.0					7.0	7.0	7.0
Minimum Split (s)		19.0	19.0	14.0	19.0					14.0	14.0	14.0
Total Split (s)		53.0	53.0	31.0	84.0					36.0	36.0	36.0
Total Split (%)		44.2%	44.2%	25.8%	70.0%					30.0%	30.0%	30.0%
Maximum Green (s)		46.0	46.0	24.0	77.0					29.0	29.0	29.0
Yellow Time (s)		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
Lost Time Adjust (s)		-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
Lead/Lag		Lag	Lag	Lead								
Lead-Lag Optimize?												
Vehicle Extension (s)		6.0	6.0	3.0	6.0					2.0	2.0	2.0
Recall Mode		C-Max	C-Max	None	C-Max					None	None	None
Act Effect Green (s)		48.0	48.0	26.0	79.0						31.0	31.0
Actuated g/C Ratio		0.40	0.40	0.22	0.66						0.26	0.26
v/c Ratio		0.97	0.47	0.99	0.52						0.99	0.46
Control Delay		40.2	22.8	66.8	5.9						84.2	40.0
Queue Delay		0.0	0.0	0.0	0.0						0.0	0.0
Total Delay		40.2	22.8	66.8	5.9						84.2	40.0
LOS		D	C	E	A						F	D
Approach Delay		37.1			20.3						65.5	

Lanes, Volumes, Timings
2: I-485 Inner On Ramp/I-485 Inner Off Ramp & Idlewild Road

2030 Build - Improved
Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	D					C					E	
Queue Length 50th (ft)		256	103	257	201						351	123
Queue Length 95th (ft)		#683	174	m#404	196						#567	174
Internal Link Dist (ft)		985			780			1076			1205	
Turn Bay Length (ft)			100	275								400
Base Capacity (vph)		1415	633	385	2341						458	719
Starvation Cap Reductn		0	0	0	0						0	0
Spillback Cap Reductn		0	0	0	0						0	0
Storage Cap Reductn		0	0	0	0						0	0
Reduced v/c Ratio		0.97	0.47	0.99	0.52						0.99	0.46

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 111 (93%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.99

Intersection Signal Delay: 36.0

Intersection LOS: D

Intersection Capacity Utilization 88.1%

ICU Level of Service E

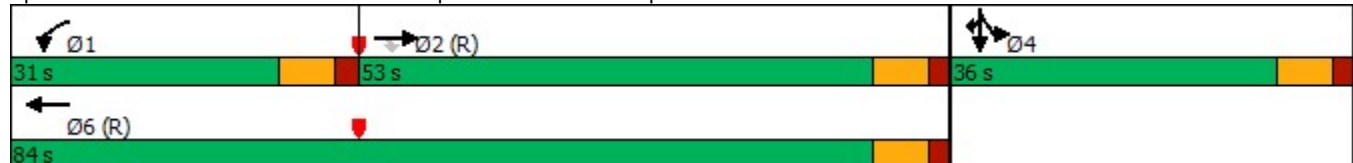
Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

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

Splits and Phases: 2: I-485 Inner On Ramp/I-485 Inner Off Ramp & Idlewild Road



APPENDIX G

Capacity Calculations

Idlewild Road and I-485 Outer Ramps

Lanes, Volumes, Timings

3: I-485 Outer Off Ramp/I-485 Outer On Ramp & Idlewild Road

2022 Existing

Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	197	316	0	0	690	253	101	4	90	0	0	0
Future Volume (vph)	197	316	0	0	690	253	101	4	90	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			1%			0%			0%	
Storage Length (ft)	275		0	0		125	200		850	0		0
Storage Lanes	1		0	0		1	1		1	0		0
Taper Length (ft)	250			100			100			100		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	0.88	1.00	1.00	1.00
Frt						0.850			0.850			
Flt Protected	0.950							0.954				
Satd. Flow (prot)	1770	3539	0	0	3522	1575	0	1777	2787	0	0	0
Flt Permitted	0.330							0.954				
Satd. Flow (perm)	615	3539	0	0	3522	1575	0	1777	2787	0	0	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			25			25	
Link Distance (ft)		860			604			1017			915	
Travel Time (s)		13.0			9.2			27.7			25.0	
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
Adj. Flow (vph)	219	351	0	0	767	281	112	4	100	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	219	351	0	0	767	281	0	116	100	0	0	0
Turn Type	D,P+P	NA			NA	Perm	Split	NA	Prot			
Protected Phases	5	2			6		4	4	4			
Permitted Phases	6					6						
Detector Phase	5	2			6	6	4	4	4			
Switch Phase												
Minimum Initial (s)	7.0	12.0			12.0	12.0	7.0	7.0	7.0			
Minimum Split (s)	12.4	17.7			17.7	17.7	12.3	12.3	12.3			
Total Split (s)	15.0	70.0			55.0	55.0	20.0	20.0	20.0			
Total Split (%)	16.7%	77.8%			61.1%	61.1%	22.2%	22.2%	22.2%			
Maximum Green (s)	9.6	64.3			49.3	49.3	14.7	14.7	14.7			
Yellow Time (s)	3.0	4.5			4.5	4.5	3.7	3.7	3.7			
All-Red Time (s)	2.4	1.2			1.2	1.2	1.6	1.6	1.6			
Lost Time Adjust (s)	-0.4	-0.7			-0.7	-0.7		-0.3	-0.3			
Total Lost Time (s)	5.0	5.0			5.0	5.0		5.0	5.0			
Lead/Lag	Lag				Lead	Lead						
Lead-Lag Optimize?	Yes				Yes	Yes						
Vehicle Extension (s)	1.0	6.0			6.0	6.0	1.0	1.0	1.0			
Minimum Gap (s)	1.0	3.0			3.0	3.0	1.0	1.0	1.0			
Time Before Reduce (s)	0.0	15.0			15.0	15.0	0.0	0.0	0.0			
Time To Reduce (s)	0.0	30.0			30.0	30.0	0.0	0.0	0.0			
Recall Mode	None	C-Min			C-Min	C-Min	None	None	None			
Act Effct Green (s)	65.0	70.0			56.3	56.3		10.0	10.0			
Actuated g/C Ratio	0.72	0.78			0.63	0.63		0.11	0.11			
v/c Ratio	0.39	0.13			0.35	0.28		0.59	0.32			
Control Delay	7.2	2.7			8.2	8.6		49.8	38.8			
Queue Delay	0.0	0.0			0.0	0.0		0.0	0.0			

Lanes, Volumes, Timings

3: I-485 Outer Off Ramp/I-485 Outer On Ramp & Idlewild Road

2022 Existing

Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	7.2	2.7			8.2	8.6		49.8	38.8			
LOS	A	A			A	A		D	D			
Approach Delay		4.4			8.3			44.7				
Approach LOS		A			A			D				
Queue Length 50th (ft)	14	11			74	51		64	30			
Queue Length 95th (ft)	21	7			146	119		113	54			
Internal Link Dist (ft)		780			524			937			835	
Turn Bay Length (ft)	275					125			850			
Base Capacity (vph)	588	2752			2210	988		296	464			
Starvation Cap Reductn	0	0			0	0		0	0			
Spillback Cap Reductn	0	0			0	0		0	0			
Storage Cap Reductn	0	0			0	0		0	0			
Reduced v/c Ratio	0.37	0.13			0.35	0.28		0.39	0.22			

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 88 (98%), Referenced to phase 2:EBT and 6:EBWB, Start of Green

Natural Cycle: 50

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.59

Intersection Signal Delay: 11.4

Intersection LOS: B

Intersection Capacity Utilization 48.9%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 3: I-485 Outer Off Ramp/I-485 Outer On Ramp & Idlewild Road

 Ø2 (R)	 Ø4
70 s	20 s
 Ø6 (R)	 Ø5
55 s	15 s

Lanes, Volumes, Timings

3: I-485 Outer Off Ramp/I-485 Outer On Ramp & Idlewild Road

05/25/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 				 			
Traffic Volume (vph)	227	754	0	0	565	201	196	4	330	0	0	0
Future Volume (vph)	227	754	0	0	565	201	196	4	330	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			1%			0%			0%	
Storage Length (ft)	275		0	0		125	200		850	0		0
Storage Lanes	1		0	0		1	1		1	0		0
Taper Length (ft)	250			100			100			100		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	0.88	1.00	1.00	1.00
Frnt						0.850			0.850			
Flt Protected	0.950							0.953				
Satd. Flow (prot)	1770	3539	0	0	3522	1575	0	1775	2787	0	0	0
Flt Permitted	0.378							0.953				
Satd. Flow (perm)	704	3539	0	0	3522	1575	0	1775	2787	0	0	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			25			25	
Link Distance (ft)		860			604			1017			915	
Travel Time (s)		13.0			9.2			27.7			25.0	
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
Adj. Flow (vph)	252	838	0	0	628	223	218	4	367	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	252	838	0	0	628	223	0	222	367	0	0	0
Turn Type	D,P+P	NA			NA	Perm	Split	NA	Prot			
Protected Phases	5	2			6		4	4	4			
Permitted Phases	6					6						
Detector Phase	5	2			6	6	4	4	4			
Switch Phase												
Minimum Initial (s)	7.0	12.0			12.0	12.0	7.0	7.0	7.0			
Minimum Split (s)	12.4	17.7			17.7	17.7	12.3	12.3	12.3			
Total Split (s)	15.0	70.0			55.0	55.0	20.0	20.0	20.0			
Total Split (%)	16.7%	77.8%			61.1%	61.1%	22.2%	22.2%	22.2%			
Maximum Green (s)	9.6	64.3			49.3	49.3	14.7	14.7	14.7			
Yellow Time (s)	3.0	4.5			4.5	4.5	3.7	3.7	3.7			
All-Red Time (s)	2.4	1.2			1.2	1.2	1.6	1.6	1.6			
Lost Time Adjust (s)	-0.4	-0.7			-0.7	-0.7		-0.3	-0.3			
Total Lost Time (s)	5.0	5.0			5.0	5.0		5.0	5.0			
Lead/Lag	Lag				Lead	Lead						
Lead-Lag Optimize?	Yes				Yes	Yes						
Vehicle Extension (s)	1.0	6.0			6.0	6.0	1.0	1.0	1.0			
Minimum Gap (s)	1.0	3.0			3.0	3.0	1.0	1.0	1.0			
Time Before Reduce (s)	0.0	15.0			15.0	15.0	0.0	0.0	0.0			
Time To Reduce (s)	0.0	30.0			30.0	30.0	0.0	0.0	0.0			
Recall Mode	None	C-Min			C-Min	C-Min	None	None	None			
Act Effct Green (s)	59.1	64.1			49.1	49.1		15.9	15.9			
Actuated g/C Ratio	0.66	0.71			0.55	0.55		0.18	0.18			
v/c Ratio	0.43	0.33			0.33	0.26		0.71	0.75			
Control Delay	9.8	3.9			12.9	13.3		47.3	44.7			
Queue Delay	0.0	0.0			0.0	0.0		0.0	0.0			

Lanes, Volumes, Timings

3: I-485 Outer Off Ramp/I-485 Outer On Ramp & Idlewild Road

05/25/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	9.8	3.9			12.9	13.3		47.3	44.7			
LOS	A	A			B	B		D	D			
Approach Delay		5.3			13.0			45.7				
Approach LOS		A			B			D				
Queue Length 50th (ft)	36	64			96	63		120	113			
Queue Length 95th (ft)	m72	83			164	131		184	155			
Internal Link Dist (ft)		780			524			937			835	
Turn Bay Length (ft)	275					125			850			
Base Capacity (vph)	600	2595			2032	909		332	522			
Starvation Cap Reductn	0	0			0	0		0	0			
Spillback Cap Reductn	0	0			0	0		0	0			
Storage Cap Reductn	0	0			0	0		0	0			
Reduced v/c Ratio	0.42	0.32			0.31	0.25		0.67	0.70			

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 8 (9%), Referenced to phase 2:EBT and 6:EBWB, Start of Green

Natural Cycle: 50

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.75

Intersection Signal Delay: 17.3

Intersection LOS: B

Intersection Capacity Utilization 56.0%

ICU Level of Service B

Analysis Period (min) 15

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

Splits and Phases: 3: I-485 Outer Off Ramp/I-485 Outer On Ramp & Idlewild Road

 Ø2 (R)	 Ø4
70 s	20 s
 Ø6 (R)	 Ø5
55 s	15 s

Stevens Mill and Idlewild Crossing - Stallings, NC
3: I-485 Outer Off Ramp/I-485 Outer On Ramp & Idlewild Road

2025 No-Build
Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 				 			
Traffic Volume (vph)	259	684	0	0	1140	398	164	4	256	0	0	0
Future Volume (vph)	259	684	0	0	1140	398	164	4	256	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			1%			0%			0%	
Storage Length (ft)	275		0	0		300	900		225	0		0
Storage Lanes	1		0	0		1	1		1	0		0
Taper Length (ft)	250			100			100			100		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	0.88	1.00	1.00	1.00
Frt						0.850			0.850			
Flt Protected	0.950							0.953				
Satd. Flow (prot)	1770	3539	0	0	3522	1575	0	1775	2787	0	0	0
Flt Permitted	0.950							0.953				
Satd. Flow (perm)	1770	3539	0	0	3522	1575	0	1775	2787	0	0	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			50			50	
Link Distance (ft)		860			604			1017			915	
Travel Time (s)		13.0			9.2			13.9			12.5	
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
Adj. Flow (vph)	288	760	0	0	1267	442	182	4	284	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	288	760	0	0	1267	442	0	186	284	0	0	0
Turn Type	Prot	NA			NA	Perm	Split	NA	Prot			
Protected Phases	5	2			6		4	4	4			
Permitted Phases						6						
Detector Phase	5	2			6	6	4	4	4			
Switch Phase												
Minimum Initial (s)	7.0	12.0			12.0	12.0	7.0	7.0	7.0			
Minimum Split (s)	14.0	19.0			19.0	19.0	14.0	14.0	14.0			
Total Split (s)	35.0	95.0			60.0	60.0	25.0	25.0	25.0			
Total Split (%)	29.2%	79.2%			50.0%	50.0%	20.8%	20.8%	20.8%			
Maximum Green (s)	28.0	88.0			53.0	53.0	18.0	18.0	18.0			
Yellow Time (s)	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			
Lost Time Adjust (s)	-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			
Lead/Lag	Lead				Lag	Lag						
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	6.0			6.0	6.0	1.0	1.0	1.0			
Recall Mode	None	C-Max			C-Max	C-Max	None	None	None			
Act Effct Green (s)	24.4	92.8			63.4	63.4		17.2	17.2			
Actuated g/C Ratio	0.20	0.77			0.53	0.53		0.14	0.14			
v/c Ratio	0.80	0.28			0.68	0.53		0.73	0.71			
Control Delay	39.8	1.4			13.5	13.2		65.8	58.9			
Queue Delay	0.0	0.0			0.0	0.0		0.0	0.0			
Total Delay	39.8	1.4			13.5	13.2		65.8	58.9			
LOS	D	A			B	B		E	E			
Approach Delay		12.0			13.5			61.7				

Stevens Mill and Idlewild Crossing - Stallings, NC
 3: I-485 Outer Off Ramp/I-485 Outer On Ramp & Idlewild Road

2025 No-Build
 Timing Plan: AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	B					B			E			
Queue Length 50th (ft)	104	0			164	107		139	119			
Queue Length 95th (ft)	m175	0			296	m179		215	169			
Internal Link Dist (ft)		780			524			937			835	
Turn Bay Length (ft)	275					300			225			
Base Capacity (vph)	442	2735			1860	831		295	464			
Starvation Cap Reductn	0	0			0	0		0	0			
Spillback Cap Reductn	0	0			0	0		0	0			
Storage Cap Reductn	0	0			0	0		0	0			
Reduced v/c Ratio	0.65	0.28			0.68	0.53		0.63	0.61			

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 16 (13%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 20.0

Intersection LOS: B

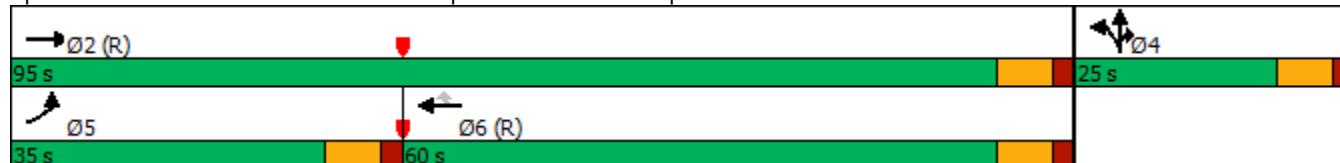
Intersection Capacity Utilization 73.3%

ICU Level of Service D

Analysis Period (min) 15

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

Splits and Phases: 3: I-485 Outer Off Ramp/I-485 Outer On Ramp & Idlewild Road



Stevens Mill and Idlewild Crossing - Stallings, NC
3: I-485 Outer Off Ramp/I-485 Outer On Ramp & Idlewild Road

2025 No-Build
Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 				 			
Traffic Volume (vph)	285	1121	0	0	923	309	275	4	497	0	0	0
Future Volume (vph)	285	1121	0	0	923	309	275	4	497	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			1%			0%			0%	
Storage Length (ft)	275		0	0		300	900		225	0		0
Storage Lanes	1		0	0		1	1		1	0		0
Taper Length (ft)	250			100			100			100		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	0.88	1.00	1.00	1.00
Frt						0.850			0.850			
Flt Protected	0.950							0.953				
Satd. Flow (prot)	1770	3539	0	0	3522	1575	0	1775	2787	0	0	0
Flt Permitted	0.950							0.953				
Satd. Flow (perm)	1770	3539	0	0	3522	1575	0	1775	2787	0	0	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			50			50	
Link Distance (ft)		860			604			1017			915	
Travel Time (s)		13.0			9.2			13.9			12.5	
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
Adj. Flow (vph)	317	1246	0	0	1026	343	306	4	552	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	317	1246	0	0	1026	343	0	310	552	0	0	0
Turn Type	Prot	NA			NA	Perm	Split	NA	Prot			
Protected Phases	5	2			6		4	4	4			
Permitted Phases						6						
Detector Phase	5	2			6	6	4	4	4			
Switch Phase												
Minimum Initial (s)	7.0	12.0			12.0	12.0	7.0	7.0	7.0			
Minimum Split (s)	14.0	19.0			19.0	19.0	14.0	14.0	14.0			
Total Split (s)	41.0	98.0			57.0	57.0	42.0	42.0	42.0			
Total Split (%)	29.3%	70.0%			40.7%	40.7%	30.0%	30.0%	30.0%			
Maximum Green (s)	34.0	91.0			50.0	50.0	35.0	35.0	35.0			
Yellow Time (s)	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			
Lost Time Adjust (s)	-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			
Lead/Lag	Lead				Lag	Lag						
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	6.0			6.0	6.0	1.0	1.0	1.0			
Recall Mode	None	C-Max			C-Max	C-Max	None	None	None			
Act Effct Green (s)	29.9	97.5			62.7	62.7		32.5	32.5			
Actuated g/C Ratio	0.21	0.70			0.45	0.45		0.23	0.23			
v/c Ratio	0.84	0.51			0.65	0.49		0.75	0.85			
Control Delay	51.3	19.3			22.4	21.1		61.9	64.8			
Queue Delay	0.0	0.0			0.0	0.0		0.0	0.0			
Total Delay	51.3	19.3			22.4	21.1		61.9	64.8			
LOS	D	B			C	C		E	E			
Approach Delay		25.8			22.1			63.8				

Stevens Mill and Idlewild Crossing - Stallings, NC
 3: I-485 Outer Off Ramp/I-485 Outer On Ramp & Idlewild Road

2025 No-Build
 Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	C			C			E					
Queue Length 50th (ft)	298	476			206	130		263	273			
Queue Length 95th (ft)	m356	587			417	240		360	339			
Internal Link Dist (ft)		780			524			937			835	
Turn Bay Length (ft)	275					300			225			
Base Capacity (vph)	455	2465			1576	705		469	736			
Starvation Cap Reductn	0	0			0	0		0	0			
Spillback Cap Reductn	0	0			0	0		0	0			
Storage Cap Reductn	0	0			0	0		0	0			
Reduced v/c Ratio	0.70	0.51			0.65	0.49		0.66	0.75			

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 10 (7%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 33.1

Intersection LOS: C

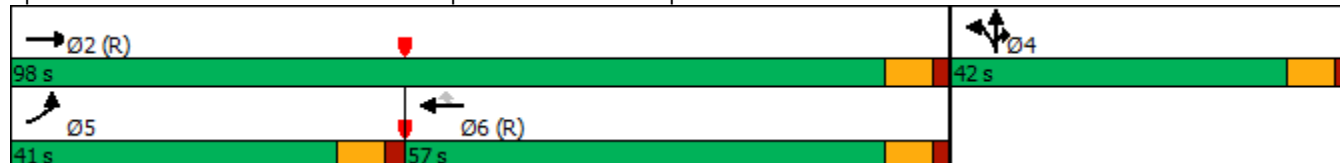
Intersection Capacity Utilization 79.0%

ICU Level of Service D

Analysis Period (min) 15

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

Splits and Phases: 3: I-485 Outer Off Ramp/I-485 Outer On Ramp & Idlewild Road



Stevens Mill and Idlewild Crossing - Stallings, NC
3: I-485 Outer Off Ramp/I-485 Outer On Ramp & Idlewild Road

2025 Build
Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 				 			
Traffic Volume (vph)	259	766	0	0	1211	412	164	4	272	0	0	0
Future Volume (vph)	259	766	0	0	1211	412	164	4	272	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			1%			0%			0%	
Storage Length (ft)	275		0	0		300	900		225	0		0
Storage Lanes	1		0	0		1	1		1	0		0
Taper Length (ft)	250			100			100			100		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	0.88	1.00	1.00	1.00
Frt						0.850			0.850			
Flt Protected	0.950							0.953				
Satd. Flow (prot)	1770	3539	0	0	3522	1575	0	1775	2787	0	0	0
Flt Permitted	0.950							0.953				
Satd. Flow (perm)	1770	3539	0	0	3522	1575	0	1775	2787	0	0	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			50			50	
Link Distance (ft)		860			604			1017			915	
Travel Time (s)		13.0			9.2			13.9			12.5	
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
Adj. Flow (vph)	288	851	0	0	1346	458	182	4	302	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	288	851	0	0	1346	458	0	186	302	0	0	0
Turn Type	Prot	NA			NA	Perm	Split	NA	Prot			
Protected Phases	5	2			6		4	4	4			
Permitted Phases						6						
Detector Phase	5	2			6	6	4	4	4			
Switch Phase												
Minimum Initial (s)	7.0	12.0			12.0	12.0	7.0	7.0	7.0			
Minimum Split (s)	14.0	19.0			19.0	19.0	14.0	14.0	14.0			
Total Split (s)	35.0	95.0			60.0	60.0	25.0	25.0	25.0			
Total Split (%)	29.2%	79.2%			50.0%	50.0%	20.8%	20.8%	20.8%			
Maximum Green (s)	28.0	88.0			53.0	53.0	18.0	18.0	18.0			
Yellow Time (s)	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			
Lost Time Adjust (s)	-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			
Lead/Lag	Lead				Lag	Lag						
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	6.0			6.0	6.0	1.0	1.0	1.0			
Recall Mode	None	C-Max			C-Max	C-Max	None	None	None			
Act Effct Green (s)	24.4	92.4			63.0	63.0		17.6	17.6			
Actuated g/C Ratio	0.20	0.77			0.52	0.52		0.15	0.15			
v/c Ratio	0.80	0.31			0.73	0.55		0.72	0.74			
Control Delay	37.5	1.4			15.1	14.2		64.3	60.3			
Queue Delay	0.0	0.0			0.0	0.0		0.0	0.0			
Total Delay	37.5	1.4			15.1	14.2		64.3	60.3			
LOS	D	A			B	B		E	E			
Approach Delay		10.5			14.8			61.8				

Stevens Mill and Idlewild Crossing - Stallings, NC
 3: I-485 Outer Off Ramp/I-485 Outer On Ramp & Idlewild Road

2025 Build
 Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	B			B			E					
Queue Length 50th (ft)	96	0			197	125		138	127			
Queue Length 95th (ft)	m150	0			357	m173		215	179			
Internal Link Dist (ft)		780			524			937			835	
Turn Bay Length (ft)	275					300			225			
Base Capacity (vph)	442	2725			1850	827		295	464			
Starvation Cap Reductn	0	0			0	0		0	0			
Spillback Cap Reductn	0	0			0	0		0	0			
Storage Cap Reductn	0	0			0	0		0	0			
Reduced v/c Ratio	0.65	0.31			0.73	0.55		0.63	0.65			

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 16 (13%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 20.1

Intersection LOS: C

Intersection Capacity Utilization 76.8%

ICU Level of Service D

Analysis Period (min) 15

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

Splits and Phases: 3: I-485 Outer Off Ramp/I-485 Outer On Ramp & Idlewild Road



Stevens Mill and Idlewild Crossing - Stallings, NC
3: I-485 Outer Off Ramp/I-485 Outer On Ramp & Idlewild Road

2025 Build
Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	285	1237	0	0	1038	332	275	4	520	0	0	0
Future Volume (vph)	285	1237	0	0	1038	332	275	4	520	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			1%			0%			0%	
Storage Length (ft)	275		0	0		300	900		225	0		0
Storage Lanes	1		0	0		1	1		1	0		0
Taper Length (ft)	250			100			100			100		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	0.88	1.00	1.00	1.00
Frt						0.850			0.850			
Flt Protected	0.950							0.953				
Satd. Flow (prot)	1770	3539	0	0	3522	1575	0	1775	2787	0	0	0
Flt Permitted	0.950							0.953				
Satd. Flow (perm)	1770	3539	0	0	3522	1575	0	1775	2787	0	0	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			50			50	
Link Distance (ft)		860			604			1017			915	
Travel Time (s)		13.0			9.2			13.9			12.5	
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
Adj. Flow (vph)	317	1374	0	0	1153	369	306	4	578	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	317	1374	0	0	1153	369	0	310	578	0	0	0
Turn Type	Prot	NA			NA	Perm	Split	NA	Prot			
Protected Phases	5	2			6		4	4	4			
Permitted Phases						6						
Detector Phase	5	2			6	6	4	4	4			
Switch Phase												
Minimum Initial (s)	7.0	12.0			12.0	12.0	7.0	7.0	7.0			
Minimum Split (s)	14.0	19.0			19.0	19.0	14.0	14.0	14.0			
Total Split (s)	41.0	98.0			57.0	57.0	42.0	42.0	42.0			
Total Split (%)	29.3%	70.0%			40.7%	40.7%	30.0%	30.0%	30.0%			
Maximum Green (s)	34.0	91.0			50.0	50.0	35.0	35.0	35.0			
Yellow Time (s)	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			
Lost Time Adjust (s)	-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			
Lead/Lag	Lead				Lag	Lag						
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	6.0			6.0	6.0	1.0	1.0	1.0			
Recall Mode	None	C-Max			C-Max	C-Max	None	None	None			
Act Effct Green (s)	29.9	96.7			61.8	61.8		33.3	33.3			
Actuated g/C Ratio	0.21	0.69			0.44	0.44		0.24	0.24			
v/c Ratio	0.84	0.56			0.74	0.53		0.73	0.87			
Control Delay	46.7	20.7			23.2	20.8		59.8	65.8			
Queue Delay	0.0	1.1			0.0	0.0		0.0	0.0			
Total Delay	46.7	21.9			23.2	20.8		59.8	65.8			
LOS	D	C			C	C		E	E			
Approach Delay		26.5			22.6			63.7				

Stevens Mill and Idlewild Crossing - Stallings, NC
 3: I-485 Outer Off Ramp/I-485 Outer On Ramp & Idlewild Road

2025 Build
 Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	C			C			E					
Queue Length 50th (ft)	289	574			214	130		260	286			
Queue Length 95th (ft)	m314	682			485	248		360	358			
Internal Link Dist (ft)		780			524			937			835	
Turn Bay Length (ft)	275					300			225			
Base Capacity (vph)	455	2443			1554	695		469	736			
Starvation Cap Reductn	0	762			0	0		0	0			
Spillback Cap Reductn	0	0			0	0		0	0			
Storage Cap Reductn	0	0			0	0		0	0			
Reduced v/c Ratio	0.70	0.82			0.74	0.53		0.66	0.79			

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 10 (7%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.87

Intersection Signal Delay: 33.1

Intersection LOS: C

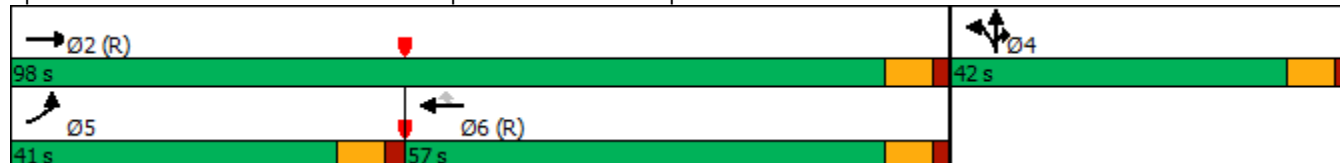
Intersection Capacity Utilization 84.1%

ICU Level of Service E

Analysis Period (min) 15

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

Splits and Phases: 3: I-485 Outer Off Ramp/I-485 Outer On Ramp & Idlewild Road



Lanes, Volumes, Timings

3: I-485 Outer Off Ramp/I-485 Outer On Ramp & Idlewild Road

2025 Build Improved

Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 				 			
Traffic Volume (vph)	259	766	0	0	1211	412	164	4	272	0	0	0
Future Volume (vph)	259	766	0	0	1211	412	164	4	272	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			1%			0%			0%	
Storage Length (ft)	275		0	0		300	900		225	0		0
Storage Lanes	1		0	0		1	1		1	0		0
Taper Length (ft)	250			100			100			100		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	0.88	1.00	1.00	1.00
Frt						0.850			0.850			
Flt Protected	0.950							0.953				
Satd. Flow (prot)	1770	3539	0	0	3522	1575	0	1775	2787	0	0	0
Flt Permitted	0.950							0.953				
Satd. Flow (perm)	1770	3539	0	0	3522	1575	0	1775	2787	0	0	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			50			50	
Link Distance (ft)		860			604			1017			915	
Travel Time (s)		13.0			9.2			13.9			12.5	
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
Adj. Flow (vph)	288	851	0	0	1346	458	182	4	302	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	288	851	0	0	1346	458	0	186	302	0	0	0
Turn Type	Prot	NA			NA	Perm	Split	NA	Prot			
Protected Phases	5	2			6		4	4	4			
Permitted Phases						6						
Detector Phase	5	2			6	6	4	4	4			
Switch Phase												
Minimum Initial (s)	7.0	12.0			12.0	12.0	7.0	7.0	7.0			
Minimum Split (s)	14.0	19.0			19.0	19.0	14.0	14.0	14.0			
Total Split (s)	34.0	96.0			62.0	62.0	24.0	24.0	24.0			
Total Split (%)	28.3%	80.0%			51.7%	51.7%	20.0%	20.0%	20.0%			
Maximum Green (s)	27.0	89.0			55.0	55.0	17.0	17.0	17.0			
Yellow Time (s)	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			
Lost Time Adjust (s)	-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			
Lead/Lag	Lead				Lag	Lag						
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	6.0			6.0	6.0	1.0	1.0	1.0			
Recall Mode	None	C-Max			C-Max	C-Max	None	None	None			
Act Effct Green (s)	24.2	92.8			63.7	63.7		17.2	17.2			
Actuated g/C Ratio	0.20	0.77			0.53	0.53		0.14	0.14			
v/c Ratio	0.81	0.31			0.72	0.55		0.73	0.76			
Control Delay	38.4	2.1			13.4	12.3		66.4	62.1			
Queue Delay	0.0	0.0			0.0	0.0		0.0	0.0			
Total Delay	38.4	2.1			13.4	12.3		66.4	62.1			
LOS	D	A			B	B		E	E			
Approach Delay		11.3			13.1			63.7				

Lanes, Volumes, Timings
3: I-485 Outer Off Ramp/I-485 Outer On Ramp & Idlewild Road

2025 Build Improved
Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	B			B			E					
Queue Length 50th (ft)	111	0			174	112		138	127			
Queue Length 95th (ft)	m166	0			336	m178		218	181			
Internal Link Dist (ft)		780			524			937			835	
Turn Bay Length (ft)	275					300			225			
Base Capacity (vph)	427	2737			1868	835		281	441			
Starvation Cap Reductn	0	0			0	0		0	0			
Spillback Cap Reductn	0	0			0	0		0	0			
Storage Cap Reductn	0	0			0	0		0	0			
Reduced v/c Ratio	0.67	0.31			0.72	0.55		0.66	0.68			

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 23 (19%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 19.7

Intersection LOS: B

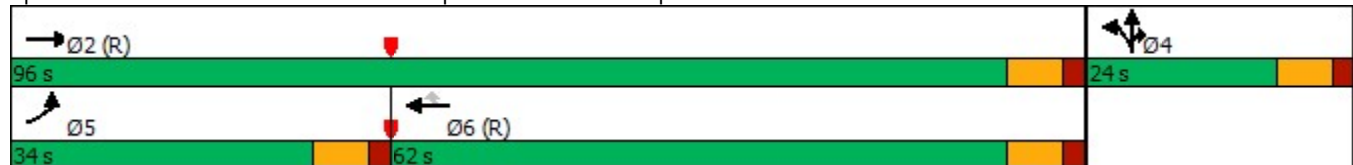
Intersection Capacity Utilization 76.8%

ICU Level of Service D

Analysis Period (min) 15

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

Splits and Phases: 3: I-485 Outer Off Ramp/I-485 Outer On Ramp & Idlewild Road



Lanes, Volumes, Timings

3: I-485 Outer Off Ramp/I-485 Outer On Ramp & Idlewild Road

2025 Build - Improved

Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 				 			
Traffic Volume (vph)	285	1237	0	0	1038	332	275	4	520	0	0	0
Future Volume (vph)	285	1237	0	0	1038	332	275	4	520	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			1%			0%			0%	
Storage Length (ft)	275		0	0		300	900		225	0		0
Storage Lanes	1		0	0		1	1		1	0		0
Taper Length (ft)	250			100			100			100		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	0.88	1.00	1.00	1.00
Frt						0.850			0.850			
Flt Protected	0.950							0.953				
Satd. Flow (prot)	1770	3539	0	0	3522	1575	0	1775	2787	0	0	0
Flt Permitted	0.950							0.953				
Satd. Flow (perm)	1770	3539	0	0	3522	1575	0	1775	2787	0	0	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			50			50	
Link Distance (ft)		860			604			1017			915	
Travel Time (s)		13.0			9.2			13.9			12.5	
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
Adj. Flow (vph)	317	1374	0	0	1153	369	306	4	578	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	317	1374	0	0	1153	369	0	310	578	0	0	0
Turn Type	Prot	NA			NA	Perm	Split	NA	Prot			
Protected Phases	5	2			6		4	4	4			
Permitted Phases						6						
Detector Phase	5	2			6	6	4	4	4			
Switch Phase												
Minimum Initial (s)	7.0	12.0			12.0	12.0	7.0	7.0	7.0			
Minimum Split (s)	14.0	19.0			19.0	19.0	14.0	14.0	14.0			
Total Split (s)	39.0	99.0			60.0	60.0	41.0	41.0	41.0			
Total Split (%)	27.9%	70.7%			42.9%	42.9%	29.3%	29.3%	29.3%			
Maximum Green (s)	32.0	92.0			53.0	53.0	34.0	34.0	34.0			
Yellow Time (s)	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			
Lost Time Adjust (s)	-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			
Lead/Lag	Lead				Lag	Lag						
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	6.0			6.0	6.0	1.0	1.0	1.0			
Recall Mode	None	C-Max			C-Max	C-Max	None	None	None			
Act Effct Green (s)	29.4	97.0			62.5	62.5		33.0	33.0			
Actuated g/C Ratio	0.21	0.69			0.45	0.45		0.24	0.24			
v/c Ratio	0.85	0.56			0.73	0.52		0.74	0.88			
Control Delay	48.1	16.9			23.4	21.0		60.7	66.9			
Queue Delay	0.0	0.9			0.0	0.0		0.0	0.0			
Total Delay	48.1	17.9			23.4	21.0		60.7	66.9			
LOS	D	B			C	C		E	E			
Approach Delay		23.5			22.8			64.8				

Lanes, Volumes, Timings

3: I-485 Outer Off Ramp/I-485 Outer On Ramp & Idlewild Road

2025 Build - Improved

Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	C			C			E					
Queue Length 50th (ft)	268	531			253	137		259	285			
Queue Length 95th (ft)	m305	m633			424	217		364	361			
Internal Link Dist (ft)		780			524			937			835	
Turn Bay Length (ft)	275					300			225			
Base Capacity (vph)	429	2451			1573	703		456	716			
Starvation Cap Reductn	0	727			0	0		0	0			
Spillback Cap Reductn	0	0			0	0		0	0			
Storage Cap Reductn	0	0			0	0		0	0			
Reduced v/c Ratio	0.74	0.80			0.73	0.52		0.68	0.81			

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 24 (17%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.88

Intersection Signal Delay: 32.2

Intersection LOS: C

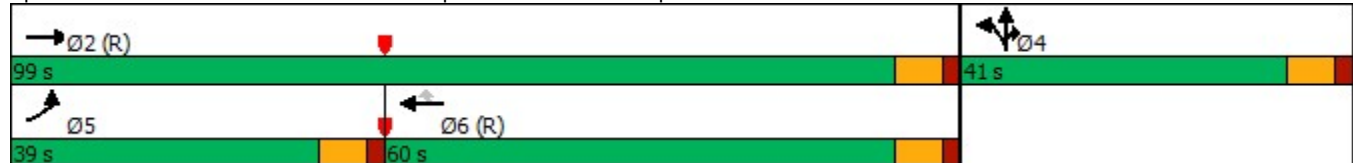
Intersection Capacity Utilization 84.1%

ICU Level of Service E

Analysis Period (min) 15

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

Splits and Phases: 3: I-485 Outer Off Ramp/I-485 Outer On Ramp & Idlewild Road



Lanes, Volumes, Timings

3: I-485 Outer Off Ramp/I-485 Outer On Ramp & Idlewild Road

2030 Build Improved

Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 				 			
Traffic Volume (vph)	310	830	0	0	1286	425	212	4	276	0	0	0
Future Volume (vph)	310	830	0	0	1286	425	212	4	276	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			1%			0%			0%	
Storage Length (ft)	275		0	0		300	900		225	0		0
Storage Lanes	1		0	0		1	1		1	0		0
Taper Length (ft)	250			100			100			100		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	0.88	1.00	1.00	1.00
Frt						0.850			0.850			
Flt Protected	0.950							0.953				
Satd. Flow (prot)	1770	3539	0	0	3522	1575	0	1775	2787	0	0	0
Flt Permitted	0.950							0.953				
Satd. Flow (perm)	1770	3539	0	0	3522	1575	0	1775	2787	0	0	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			50			50	
Link Distance (ft)		860			604			1017			915	
Travel Time (s)		13.0			9.2			13.9			12.5	
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
Adj. Flow (vph)	344	922	0	0	1429	472	236	4	307	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	344	922	0	0	1429	472	0	240	307	0	0	0
Turn Type	Prot	NA			NA	Perm	Split	NA	Prot			
Protected Phases	5	2			6		4	4	4			
Permitted Phases						6						
Detector Phase	5	2			6	6	4	4	4			
Switch Phase												
Minimum Initial (s)	7.0	12.0			12.0	12.0	7.0	7.0	7.0			
Minimum Split (s)	14.0	19.0			19.0	19.0	14.0	14.0	14.0			
Total Split (s)	33.0	95.0			62.0	62.0	25.0	25.0	25.0			
Total Split (%)	27.5%	79.2%			51.7%	51.7%	20.8%	20.8%	20.8%			
Maximum Green (s)	26.0	88.0			55.0	55.0	18.0	18.0	18.0			
Yellow Time (s)	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			
Lost Time Adjust (s)	-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			
Lead/Lag	Lead				Lag	Lag						
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	6.0			6.0	6.0	1.0	1.0	1.0			
Recall Mode	None	C-Max			C-Max	C-Max	None	None	None			
Act Effct Green (s)	26.2	91.0			59.8	59.8		19.0	19.0			
Actuated g/C Ratio	0.22	0.76			0.50	0.50		0.16	0.16			
v/c Ratio	0.89	0.34			0.81	0.60		0.86	0.70			
Control Delay	42.1	1.4			15.4	13.3		76.7	56.8			
Queue Delay	0.0	0.0			0.0	0.0		0.0	0.0			
Total Delay	42.1	1.4			15.4	13.3		76.7	56.8			
LOS	D	A			B	B		E	E			
Approach Delay		12.5			14.9			65.5				

Lanes, Volumes, Timings

3: I-485 Outer Off Ramp/I-485 Outer On Ramp & Idlewild Road

2030 Build Improved

Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	B			B			E					
Queue Length 50th (ft)	153	0			205	104		181	127			
Queue Length 95th (ft)	m227	m0			437	m201		#313	182			
Internal Link Dist (ft)		780			524			937			835	
Turn Bay Length (ft)	275					300			225			
Base Capacity (vph)	413	2684			1755	785		295	464			
Starvation Cap Reductn	0	0			0	0		0	0			
Spillback Cap Reductn	0	0			0	0		0	0			
Storage Cap Reductn	0	0			0	0		0	0			
Reduced v/c Ratio	0.83	0.34			0.81	0.60		0.81	0.66			

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 24 (20%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.89

Intersection Signal Delay: 21.5

Intersection LOS: C

Intersection Capacity Utilization 81.1%

ICU Level of Service D

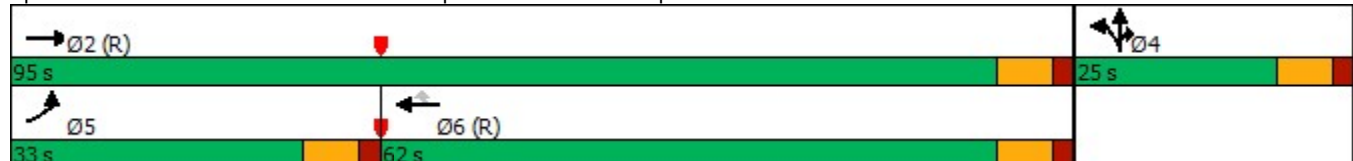
Analysis Period (min) 15

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.

Splits and Phases: 3: I-485 Outer Off Ramp/I-485 Outer On Ramp & Idlewild Road



Lanes, Volumes, Timings

3: I-485 Outer Off Ramp/I-485 Outer On Ramp & Idlewild Road

2030 Build - Improved

Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 				 			
Traffic Volume (vph)	325	1309	0	0	1111	343	331	4	537	0	0	0
Future Volume (vph)	325	1309	0	0	1111	343	331	4	537	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			1%			0%			0%	
Storage Length (ft)	275		0	0		300	900		225	0		0
Storage Lanes	1		0	0		1	1		1	0		0
Taper Length (ft)	250			100			100			100		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	0.88	1.00	1.00	1.00
Frt						0.850			0.850			
Flt Protected	0.950							0.953				
Satd. Flow (prot)	1770	3539	0	0	3522	1575	0	1775	2787	0	0	0
Flt Permitted	0.950							0.953				
Satd. Flow (perm)	1770	3539	0	0	3522	1575	0	1775	2787	0	0	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			50			50	
Link Distance (ft)		860			604			1017			915	
Travel Time (s)		13.0			9.2			13.9			12.5	
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
Adj. Flow (vph)	361	1454	0	0	1234	381	368	4	597	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	361	1454	0	0	1234	381	0	372	597	0	0	0
Turn Type	Prot	NA			NA	Perm	Split	NA	Prot			
Protected Phases	5	2			6		4	4	4			
Permitted Phases						6						
Detector Phase	5	2			6	6	4	4	4			
Switch Phase												
Minimum Initial (s)	7.0	12.0			12.0	12.0	7.0	7.0	7.0			
Minimum Split (s)	14.0	19.0			19.0	19.0	14.0	14.0	14.0			
Total Split (s)	33.0	86.0			53.0	53.0	34.0	34.0	34.0			
Total Split (%)	27.5%	71.7%			44.2%	44.2%	28.3%	28.3%	28.3%			
Maximum Green (s)	26.0	79.0			46.0	46.0	27.0	27.0	27.0			
Yellow Time (s)	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			
Lost Time Adjust (s)	-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			
Lead/Lag	Lead				Lag	Lag						
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	6.0			6.0	6.0	1.0	1.0	1.0			
Recall Mode	None	C-Max			C-Max	C-Max	None	None	None			
Act Effct Green (s)	26.9	81.8			49.9	49.9		28.2	28.2			
Actuated g/C Ratio	0.22	0.68			0.42	0.42		0.24	0.24			
v/c Ratio	0.91	0.60			0.84	0.58		0.89	0.91			
Control Delay	40.1	11.6			23.6	19.2		69.0	64.2			
Queue Delay	0.0	0.0			0.0	0.0		0.0	0.0			
Total Delay	40.1	11.6			23.6	19.2		69.0	64.2			
LOS	D	B			C	B		E	E			
Approach Delay		17.2			22.6			66.0				

Lanes, Volumes, Timings

3: I-485 Outer Off Ramp/I-485 Outer On Ramp & Idlewild Road

2030 Build - Improved

Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	B			C			E					
Queue Length 50th (ft)	231	480			261	107		278	255			
Queue Length 95th (ft)	m239	m494			433	206		#446	#364			
Internal Link Dist (ft)		780			524			937			835	
Turn Bay Length (ft)	275					300			225			
Base Capacity (vph)	413	2412			1463	654		428	673			
Starvation Cap Reductn	0	0			0	0		0	0			
Spillback Cap Reductn	0	0			0	0		0	0			
Storage Cap Reductn	0	0			0	0		0	0			
Reduced v/c Ratio	0.87	0.60			0.84	0.58		0.87	0.89			

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 56 (47%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.91

Intersection Signal Delay: 29.9

Intersection LOS: C

Intersection Capacity Utilization 88.1%

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.

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

Splits and Phases: 3: I-485 Outer Off Ramp/I-485 Outer On Ramp & Idlewild Road



APPENDIX H

Capacity Calculations

Idlewild Road and Boyd Funderburk Dr/Marshall Hooks Rd

Intersection												
Int Delay, s/veh	0.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	406	4	4	941	4	4	4	4	4	4	4
Future Vol, veh/h	4	406	4	4	941	4	4	4	4	4	4	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	350	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	451	4	4	1046	4	4	4	4	4	4	4
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1050	0	0	455	0	0	994	1519	228	1292	1519	525
Stage 1	-	-	-	-	-	-	461	461	-	1056	1056	-
Stage 2	-	-	-	-	-	-	533	1058	-	236	463	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	659	-	-	1102	-	-	199	118	775	120	118	497
Stage 1	-	-	-	-	-	-	550	564	-	241	300	-
Stage 2	-	-	-	-	-	-	498	300	-	746	562	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	659	-	-	1102	-	-	190	117	775	115	117	497
Mov Cap-2 Maneuver	-	-	-	-	-	-	190	117	-	115	117	-
Stage 1	-	-	-	-	-	-	547	561	-	240	299	-
Stage 2	-	-	-	-	-	-	484	299	-	731	559	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0			24.4			30.2		
HCM LOS							C			D		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	199	659	-	-	1102	-	-	156				
HCM Lane V/C Ratio	0.067	0.007	-	-	0.004	-	-	0.085				
HCM Control Delay (s)	24.4	10.5	-	-	8.3	-	-	30.2				
HCM Lane LOS	C	B	-	-	A	-	-	D				
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.3				

Intersection

Int Delay, s/veh 0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	1079	4	4	765	4	4	4	4	4	4	4
Future Vol, veh/h	4	1079	4	4	765	4	4	4	4	4	4	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	350	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	1199	4	4	850	4	4	4	4	4	4	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	854	0	0	1203	0	0	1644	2071	602	1470	2071	427
Stage 1	-	-	-	-	-	-	1209	1209	-	860	860	-
Stage 2	-	-	-	-	-	-	435	862	-	610	1211	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	781	-	-	576	-	-	66	53	443	89	53	576
Stage 1	-	-	-	-	-	-	194	254	-	317	371	-
Stage 2	-	-	-	-	-	-	570	370	-	448	253	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	781	-	-	576	-	-	61	52	443	82	52	576
Mov Cap-2 Maneuver	-	-	-	-	-	-	61	52	-	82	52	-
Stage 1	-	-	-	-	-	-	193	253	-	315	368	-
Stage 2	-	-	-	-	-	-	555	367	-	433	252	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0.1			59.6			51.8		
HCM LOS							F			F		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	79	781	-	-	576	-	-	90
HCM Lane V/C Ratio	0.169	0.006	-	-	0.008	-	-	0.148
HCM Control Delay (s)	59.6	9.6	-	-	11.3	-	-	51.8
HCM Lane LOS	F	A	-	-	B	-	-	F
HCM 95th %tile Q(veh)	0.6	0	-	-	0	-	-	0.5

Stevens Mill and Idlewild Crossing - Stallings, NC
4: Boyd Funderburk Drive/Marshall Hooks Road & Idlewild Road

2025 No-Build
Timing Plan: AM Peak Hour

Intersection												
Int Delay, s/veh	1.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	57	758	125	75	1473	4	0	0	41	0	0	65
Future Vol, veh/h	57	758	125	75	1473	4	0	0	41	0	0	65
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	100	125	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	63	842	139	83	1637	4	0	0	46	0	0	72

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1641	0	0	981	0	0	-	-	421	-	-	821
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	4.14	-	-	4.14	-	-	-	-	6.94	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	-	-	3.32	-	-	3.32
Pot Cap-1 Maneuver	391	-	-	699	-	-	0	0	581	0	0	318
Stage 1	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	391	-	-	699	-	-	-	-	581	-	-	318
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	1			0.5			11.7			19.6		
HCM LOS							B			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	581	391	-	-	699	-	-	318
HCM Lane V/C Ratio	0.078	0.162	-	-	0.119	-	-	0.227
HCM Control Delay (s)	11.7	16	-	-	10.8	-	-	19.6
HCM Lane LOS	B	C	-	-	B	-	-	C
HCM 95th %tile Q(veh)	0.3	0.6	-	-	0.4	-	-	0.9

Stevens Mill and Idlewild Crossing - Stallings, NC
4: Boyd Funderburk Drive/Marshall Hooks Road & Idlewild Road

2025 No-Build
Timing Plan: PM Peak Hour

Intersection												
Int Delay, s/veh	1.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	56	1411	151	92	1186	4	0	0	55	0	0	46
Future Vol, veh/h	56	1411	151	92	1186	4	0	0	55	0	0	46
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	100	125	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	62	1568	168	102	1318	4	0	0	61	0	0	51

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1322	0	0	1736	0	0	-	-	784	-	-	661
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	4.14	-	-	4.14	-	-	-	-	6.94	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	-	-	3.32	-	-	3.32
Pot Cap-1 Maneuver	519	-	-	359	-	-	0	0	336	0	0	405
Stage 1	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	519	-	-	359	-	-	-	-	336	-	-	405
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	1.4	18.1	15.2
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	336	519	-	-	359	-	-	405
HCM Lane V/C Ratio	0.182	0.12	-	-	0.285	-	-	0.126
HCM Control Delay (s)	18.1	12.9	-	-	19	-	-	15.2
HCM Lane LOS	C	B	-	-	C	-	-	C
HCM 95th %tile Q(veh)	0.7	0.4	-	-	1.2	-	-	0.4

Stevens Mill and Idlewild Crossing - Stallings, NC
4: Boyd Funderburk Drive/Marshall Hooks Road & Idlewild Road

2025 Build
Timing Plan: AM Peak Hour

Intersection												
Int Delay, s/veh	1.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	57	856	125	75	1558	4	0	0	41	0	0	65
Future Vol, veh/h	57	856	125	75	1558	4	0	0	41	0	0	65
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	100	125	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	63	951	139	83	1731	4	0	0	46	0	0	72

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1735	0	0	1090	0	0	-	-	476	-	-	868
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	4.14	-	-	4.14	-	-	-	-	6.94	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	-	-	3.32	-	-	3.32
Pot Cap-1 Maneuver	359	-	-	636	-	-	0	0	535	0	0	296
Stage 1	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %		-	-		-	-				-	-	
Mov Cap-1 Maneuver	359	-	-	636	-	-	-	-	535	-	-	296
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.9			0.5			12.4			21		
HCM LOS							B			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	535	359	-	-	636	-	-	296
HCM Lane V/C Ratio	0.085	0.176	-	-	0.131	-	-	0.244
HCM Control Delay (s)	12.4	17.2	-	-	11.5	-	-	21
HCM Lane LOS	B	C	-	-	B	-	-	C
HCM 95th %tile Q(veh)	0.3	0.6	-	-	0.4	-	-	0.9

Stevens Mill and Idlewild Crossing - Stallings, NC
4: Boyd Funderburk Drive/Marshall Hooks Road & Idlewild Road

2025 Build
Timing Plan: PM Peak Hour

Intersection												
Int Delay, s/veh	1.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	56	1550	151	92	1324	4	0	0	55	0	0	46
Future Vol, veh/h	56	1550	151	92	1324	4	0	0	55	0	0	46
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	100	125	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	62	1722	168	102	1471	4	0	0	61	0	0	51

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1475	0	0	1890	0	0	-	-	861	-	-	738
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	4.14	-	-	4.14	-	-	-	-	6.94	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	-	-	3.32	-	-	3.32
Pot Cap-1 Maneuver	453	-	-	312	-	-	0	0	299	0	0	360
Stage 1	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	453	-	-	312	-	-	-	-	299	-	-	360
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	1.4	20.1	16.6
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	299	453	-	-	312	-	-	360
HCM Lane V/C Ratio	0.204	0.137	-	-	0.328	-	-	0.142
HCM Control Delay (s)	20.1	14.2	-	-	22.1	-	-	16.6
HCM Lane LOS	C	B	-	-	C	-	-	C
HCM 95th %tile Q(veh)	0.8	0.5	-	-	1.4	-	-	0.5

Intersection												
Int Delay, s/veh	1.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	57	856	125	75	1558	4	0	0	41	0	0	65
Future Vol, veh/h	57	856	125	75	1558	4	0	0	41	0	0	65
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	100	125	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	63	951	139	83	1731	4	0	0	46	0	0	72

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1735	0	0	1090	0	0	-	-	476	-	-	868
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	4.14	-	-	4.14	-	-	-	-	6.94	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	-	-	3.32	-	-	3.32
Pot Cap-1 Maneuver	359	-	-	636	-	-	0	0	535	0	0	296
Stage 1	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	359	-	-	636	-	-	-	-	535	-	-	296
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.9			0.5			12.4			21		
HCM LOS							B			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	535	359	-	-	636	-	-	296
HCM Lane V/C Ratio	0.085	0.176	-	-	0.131	-	-	0.244
HCM Control Delay (s)	12.4	17.2	-	-	11.5	-	-	21
HCM Lane LOS	B	C	-	-	B	-	-	C
HCM 95th %tile Q(veh)	0.3	0.6	-	-	0.4	-	-	0.9

Intersection												
Int Delay, s/veh	1.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	56	1550	151	92	1324	4	0	0	55	0	0	46
Future Vol, veh/h	56	1550	151	92	1324	4	0	0	55	0	0	46
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	100	125	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	62	1722	168	102	1471	4	0	0	61	0	0	51

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1475	0	0	1890	0	0	-	-	861	-	-	738
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	4.14	-	-	4.14	-	-	-	-	6.94	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	-	-	3.32	-	-	3.32
Pot Cap-1 Maneuver	453	-	-	312	-	-	0	0	299	0	0	360
Stage 1	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	453	-	-	312	-	-	-	-	299	-	-	360
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.5			1.4			20.1			16.6		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	299	453	-	-	312	-	-	360
HCM Lane V/C Ratio	0.204	0.137	-	-	0.328	-	-	0.142
HCM Control Delay (s)	20.1	14.2	-	-	22.1	-	-	16.6
HCM Lane LOS	C	B	-	-	C	-	-	C
HCM 95th %tile Q(veh)	0.8	0.5	-	-	1.4	-	-	0.5

Intersection												
Int Delay, s/veh	1.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	57	926	125	75	1646	4	0	0	41	0	0	65
Future Vol, veh/h	57	926	125	75	1646	4	0	0	41	0	0	65
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	100	125	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	63	1029	139	83	1829	4	0	0	46	0	0	72

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1833	0	0	1168	0	0	-	-	515	-	-	917
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	4.14	-	-	4.14	-	-	-	-	6.94	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	-	-	3.32	-	-	3.32
Pot Cap-1 Maneuver	329	-	-	594	-	-	0	0	505	0	0	274
Stage 1	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	329	-	-	594	-	-	-	-	505	-	-	274
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	1			0.5			12.8			22.8		
HCM LOS							B			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	505	329	-	-	594	-	-	274
HCM Lane V/C Ratio	0.09	0.193	-	-	0.14	-	-	0.264
HCM Control Delay (s)	12.8	18.5	-	-	12	-	-	22.8
HCM Lane LOS	B	C	-	-	B	-	-	C
HCM 95th %tile Q(veh)	0.3	0.7	-	-	0.5	-	-	1

Intersection												
Int Delay, s/veh	1.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	56	1639	151	92	1407	4	0	0	55	0	0	46
Future Vol, veh/h	56	1639	151	92	1407	4	0	0	55	0	0	46
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	100	125	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	62	1821	168	102	1563	4	0	0	61	0	0	51

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1567	0	0	1989	0	0	-	-	911	-	-	784
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	4.14	-	-	4.14	-	-	-	-	6.94	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	-	-	3.32	-	-	3.32
Pot Cap-1 Maneuver	417	-	-	286	-	-	0	0	277	0	0	336
Stage 1	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	417	-	-	286	-	-	-	-	277	-	-	336
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.5			1.5			21.6			17.6		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	277	417	-	-	286	-	-	336
HCM Lane V/C Ratio	0.221	0.149	-	-	0.357	-	-	0.152
HCM Control Delay (s)	21.6	15.1	-	-	24.4	-	-	17.6
HCM Lane LOS	C	C	-	-	C	-	-	C
HCM 95th %tile Q(veh)	0.8	0.5	-	-	1.6	-	-	0.5

APPENDIX I

Capacity Calculations

Idlewild Road and Rite Aid Driveway

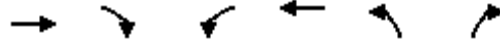
Lanes, Volumes, Timings
5: Rite Aid Driveway & Idlewild Road

2022 Existing
Timing Plan: AM Peak Hour

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	341	4	34	878	32	17
Future Volume (vph)	341	4	34	878	32	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	-4%			2%	-2%	
Storage Length (ft)		0	150		0	0
Storage Lanes		1	1		1	0
Taper Length (ft)			100		100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.953	
Flt Protected			0.950		0.968	
Satd. Flow (prot)	1900	1615	1752	1844	1736	0
Flt Permitted			0.511		0.968	
Satd. Flow (perm)	1900	1615	942	1844	1736	0
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Link Speed (mph)	45			45	25	
Link Distance (ft)	374			2114	1008	
Travel Time (s)	5.7			32.0	27.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	379	4	38	976	36	19
Shared Lane Traffic (%)						
Lane Group Flow (vph)	379	4	38	976	55	0
Turn Type	NA	Perm	D.P+P	NA	Prot	
Protected Phases	2		1	6	4	
Permitted Phases		2	2			
Detector Phase	2	2	1	6	4	
Switch Phase						
Minimum Initial (s)	12.0	12.0	7.0	12.0	7.0	
Minimum Split (s)	18.2	18.2	12.3	18.2	11.9	
Total Split (s)	60.0	60.0	15.0	75.0	15.0	
Total Split (%)	66.7%	66.7%	16.7%	83.3%	16.7%	
Maximum Green (s)	53.8	53.8	9.7	68.8	10.1	
Yellow Time (s)	4.9	4.9	3.0	4.9	3.0	
All-Red Time (s)	1.3	1.3	2.3	1.3	1.9	
Lost Time Adjust (s)	-1.2	-1.2	-0.3	-1.2	0.1	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	
Lead/Lag	Lead	Lead	Lag			
Lead-Lag Optimize?	Yes	Yes	Yes			
Vehicle Extension (s)	6.0	6.0	1.0	6.0	1.0	
Minimum Gap (s)	3.0	3.0	1.0	3.0	1.0	
Time Before Reduce (s)	15.0	15.0	0.0	15.0	0.0	
Time To Reduce (s)	30.0	30.0	0.0	30.0	0.0	
Recall Mode	C-Min	C-Min	None	C-Min	None	
Act Effct Green (s)	64.5	64.5	73.4	75.9	7.5	
Actuated g/C Ratio	0.72	0.72	0.82	0.84	0.08	
v/c Ratio	0.28	0.00	0.04	0.63	0.38	
Control Delay	6.9	7.0	2.1	5.6	46.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	

Lanes, Volumes, Timings
5: Rite Aid Driveway & Idlewild Road

2022 Existing
Timing Plan: AM Peak Hour



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Total Delay	6.9	7.0	2.1	5.6	46.7	
LOS	A	A	A	A	D	
Approach Delay	6.9			5.5	46.7	
Approach LOS	A			A	D	
Queue Length 50th (ft)	36	0	3	158	30	
Queue Length 95th (ft)	226	m5	9	297	66	
Internal Link Dist (ft)	294			2034	928	
Turn Bay Length (ft)			150			
Base Capacity (vph)	1404	1193	887	1554	192	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.27	0.00	0.04	0.63	0.29	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 79 (88%), Referenced to phase 2:EBWB and 6:WBT, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.63

Intersection Signal Delay: 7.4

Intersection LOS: A

Intersection Capacity Utilization 60.4%

ICU Level of Service B

Analysis Period (min) 15

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

Splits and Phases: 5: Rite Aid Driveway & Idlewild Road

Ø2 (R)	Ø1	Ø4
60 s	15 s	15 s
Ø6 (R)		
75 s		

Lanes, Volumes, Timings
5: Rite Aid Driveway & Idlewild Road

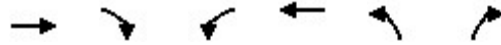
06/25/2023

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑	↑	↑	↑	↑
Traffic Volume (vph)	921	16	130	623	126	131
Future Volume (vph)	921	16	130	623	126	131
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	-4%			2%	-2%	
Storage Length (ft)		0	150		0	0
Storage Lanes		1	1		1	0
Taper Length (ft)			100		100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.931	
Flt Protected			0.950		0.976	
Satd. Flow (prot)	1900	1615	1752	1844	1710	0
Flt Permitted			0.082		0.976	
Satd. Flow (perm)	1900	1615	151	1844	1710	0
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Link Speed (mph)	45			45	25	
Link Distance (ft)	374			2114	1008	
Travel Time (s)	5.7			32.0	27.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	1023	18	144	692	140	146
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1023	18	144	692	286	0
Turn Type	NA	Perm	D.P+P	NA	Prot	
Protected Phases	2		1	6	4	
Permitted Phases		2	2			
Detector Phase	2	2	1	6	4	
Switch Phase						
Minimum Initial (s)	12.0	12.0	7.0	12.0	7.0	
Minimum Split (s)	18.2	18.2	12.3	18.2	11.9	
Total Split (s)	55.0	55.0	15.0	70.0	20.0	
Total Split (%)	61.1%	61.1%	16.7%	77.8%	22.2%	
Maximum Green (s)	48.8	48.8	9.7	63.8	15.1	
Yellow Time (s)	4.9	4.9	3.0	4.9	3.0	
All-Red Time (s)	1.3	1.3	2.3	1.3	1.9	
Lost Time Adjust (s)	-1.2	-1.2	-0.3	-1.2	0.1	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	
Lead/Lag	Lead	Lead	Lag			
Lead-Lag Optimize?	Yes	Yes	Yes			
Vehicle Extension (s)	6.0	6.0	1.0	6.0	1.0	
Minimum Gap (s)	3.0	3.0	1.0	3.0	1.0	
Time Before Reduce (s)	15.0	15.0	0.0	15.0	0.0	
Time To Reduce (s)	30.0	30.0	0.0	30.0	0.0	
Recall Mode	C-Min	C-Min	None	C-Min	None	
Act Effect Green (s)	49.8	49.8	58.0	63.0	17.0	
Actuated g/C Ratio	0.55	0.55	0.64	0.70	0.19	
v/c Ratio	0.97	0.02	0.60	0.54	0.89	
Control Delay	48.7	13.0	29.9	8.7	66.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	

Lanes, Volumes, Timings

5: Rite Aid Driveway & Idlewild Road

06/25/2023



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Total Delay	48.7	13.0	29.9	8.7	66.4	
LOS	D	B	C	A	E	
Approach Delay	48.1			12.4	66.4	
Approach LOS	D			B	E	
Queue Length 50th (ft)	446	6	67	476	158	
Queue Length 95th (ft)	#829	m17	76	103	#327	
Internal Link Dist (ft)	294			2034	928	
Turn Bay Length (ft)			150			
Base Capacity (vph)	1055	897	278	1331	323	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.97	0.02	0.52	0.52	0.89	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 36 (40%), Referenced to phase 2:EBWB and 6:WBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.97

Intersection Signal Delay: 36.7

Intersection LOS: D

Intersection Capacity Utilization 83.2%

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.

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

Splits and Phases: 5: Rite Aid Driveway & Idlewild Road



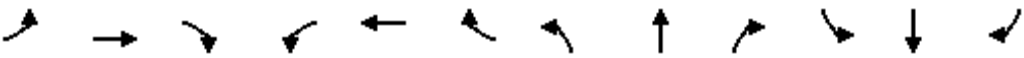
Stevens Mill and Idlewild Crossing - Stallings, NC
5: Rite Aid Driveway/Stinson Farms Site Drive & Idlewild Road

2025 No-Build
Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	220	479	34	60	1122	141	196	27	83	282	33	191
Future Volume (vph)	220	479	34	60	1122	141	196	27	83	282	33	191
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-4%			2%			-2%			0%	
Storage Length (ft)	325		0	300		400	0		500	250		250
Storage Lanes	2		0	1		1	1		1	2		1
Taper Length (ft)	200			100			100			200		
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Frt		0.990				0.850		0.887				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3502	3574	0	1752	3504	1567	1787	1669	0	3433	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3502	3574	0	1752	3504	1567	1787	1669	0	3433	1863	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			35			15	
Link Distance (ft)		1041			2114			1008			1139	
Travel Time (s)		15.8			32.0			19.6			51.8	
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
Adj. Flow (vph)	244	532	38	67	1247	157	218	30	92	313	37	212
Shared Lane Traffic (%)												
Lane Group Flow (vph)	244	570	0	67	1247	157	218	122	0	313	37	212
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA		Prot	NA	pm+ov
Protected Phases	5	2		1	6	7	3	8		7	4	5
Permitted Phases						6						4
Detector Phase	5	2		1	6	7	3	8		7	4	5
Switch Phase												
Minimum Initial (s)	7.0	12.0		7.0	12.0	7.0	7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	14.0	19.0		14.0	19.0	14.0	14.0	14.0		14.0	14.0	14.0
Total Split (s)	20.0	63.0		15.0	58.0	21.0	28.0	21.0		21.0	14.0	20.0
Total Split (%)	16.7%	52.5%		12.5%	48.3%	17.5%	23.3%	17.5%		17.5%	11.7%	16.7%
Maximum Green (s)	13.0	56.0		8.0	51.0	14.0	21.0	14.0		14.0	7.0	13.0
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	-2.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	6.0		1.0	6.0	3.0	3.0	3.0		3.0	1.0	3.0
Recall Mode	None	C-Max		None	C-Max	None	None	None		None	None	None
Act Effect Green (s)	15.6	63.2		9.6	54.3	74.9	26.4	14.5		15.6	9.3	24.3
Actuated g/C Ratio	0.13	0.53		0.08	0.45	0.62	0.22	0.12		0.13	0.08	0.20
v/c Ratio	0.54	0.30		0.48	0.79	0.16	0.56	0.61		0.70	0.26	0.66
Control Delay	62.6	8.3		65.6	21.8	7.2	49.0	63.0		59.2	57.1	53.6
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	62.6	8.3		65.6	21.8	7.2	49.0	63.0		59.2	57.1	53.6
LOS	E	A		E	C	A	D	E		E	E	D
Approach Delay		24.6			22.2			54.1			57.0	

Stevens Mill and Idlewild Crossing - Stallings, NC
 5: Rite Aid Driveway/Stinson Farms Site Drive & Idlewild Road

2025 No-Build
 Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	C			C			D			E		
Queue Length 50th (ft)	78	91		50	239	39	159	90		120	27	142
Queue Length 95th (ft)	123	120		m82	331	m51	243	155		170	63	227
Internal Link Dist (ft)	961			2034			928			1059		
Turn Bay Length (ft)	325			300			400			250		
Base Capacity (vph)	455	1881		146	1586	983	396	222		457	143	320
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.54	0.30		0.46	0.79	0.16	0.55	0.55		0.68	0.26	0.66

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 119 (99%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.79

Intersection Signal Delay: 32.4

Intersection LOS: C

Intersection Capacity Utilization 67.3%

ICU Level of Service C

Analysis Period (min) 15

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

Splits and Phases: 5: Rite Aid Driveway/Stinson Farms Site Drive & Idlewild Road



Stevens Mill and Idlewild Crossing - Stallings, NC
5: Rite Aid Driveway/Stinson Farms Site Drive & Idlewild Road

2025 No-Build
Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	234	1037	47	160	853	126	282	27	190	232	23	134
Future Volume (vph)	234	1037	47	160	853	126	282	27	190	232	23	134
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-4%			2%			-2%			0%	
Storage Length (ft)	325		0	300		400	0		500	250		250
Storage Lanes	2		0	1		1	1		1	2		1
Taper Length (ft)	200			100			100			200		
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Frt		0.994				0.850		0.869				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3502	3588	0	1752	3504	1567	1787	1635	0	3433	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3502	3588	0	1752	3504	1567	1787	1635	0	3433	1863	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			35			15	
Link Distance (ft)		1041			2114			1008			1139	
Travel Time (s)		15.8			32.0			19.6			51.8	
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
Adj. Flow (vph)	260	1152	52	178	948	140	313	30	211	258	26	149
Shared Lane Traffic (%)												
Lane Group Flow (vph)	260	1204	0	178	948	140	313	241	0	258	26	149
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA		Prot	NA	pm+ov
Protected Phases	5	2		1	6	7	3	8		7	4	5
Permitted Phases						6						4
Detector Phase	5	2		1	6	7	3	8		7	4	5
Switch Phase												
Minimum Initial (s)	7.0	12.0		7.0	12.0	7.0	7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	14.0	19.0		14.0	19.0	14.0	14.0	14.0		14.0	14.0	14.0
Total Split (s)	21.0	63.0		25.0	67.0	19.0	37.0	33.0		19.0	15.0	21.0
Total Split (%)	15.0%	45.0%		17.9%	47.9%	13.6%	26.4%	23.6%		13.6%	10.7%	15.0%
Maximum Green (s)	14.0	56.0		18.0	60.0	12.0	30.0	26.0		12.0	8.0	14.0
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	-2.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	6.0		1.0	6.0	3.0	3.0	3.0		3.0	1.0	3.0
Recall Mode	None	C-Max		None	C-Max	None	None	None		None	None	None
Act Effect Green (s)	15.8	62.4		18.0	64.6	83.5	35.6	25.6		14.0	9.6	24.9
Actuated g/C Ratio	0.11	0.45		0.13	0.46	0.60	0.25	0.18		0.10	0.07	0.18
v/c Ratio	0.66	0.75		0.79	0.59	0.15	0.69	0.81		0.75	0.20	0.53
Control Delay	75.6	19.3		69.6	28.6	11.7	57.1	74.9		75.9	65.4	57.9
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	75.6	19.3		69.6	28.6	11.7	57.1	74.9		75.9	65.4	57.9
LOS	E	B		E	C	B	E	E		E	E	E
Approach Delay		29.3			32.5			64.9			69.0	

Stevens Mill and Idlewild Crossing - Stallings, NC
 5: Rite Aid Driveway/Stinson Farms Site Drive & Idlewild Road

2025 No-Build
 Timing Plan: PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	C			C			E			E		
Queue Length 50th (ft)	119	495		141	366	73	269	208		119	23	118
Queue Length 95th (ft)	m163	484		m214	m435	m92	#398	#320		#176	55	189
Internal Link Dist (ft)		961			2034			928			1059	
Turn Bay Length (ft)	325			300		400				250		250
Base Capacity (vph)	408	1599		250	1615	935	454	327		343	133	286
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.64	0.75		0.71	0.59	0.15	0.69	0.74		0.75	0.20	0.52

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 133 (95%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 40.3

Intersection LOS: D

Intersection Capacity Utilization 77.1%

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.

Splits and Phases: 5: Rite Aid Driveway/Stinson Farms Site Drive & Idlewild Road



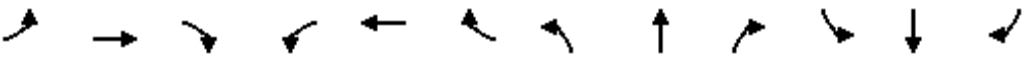
Stevens Mill and Idlewild Crossing - Stallings, NC
5: Rite Aid Driveway/Stinson Farms Site Drive & Idlewild Road

2025 Build
Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	220	577	34	60	1207	141	196	27	83	282	33	191
Future Volume (vph)	220	577	34	60	1207	141	196	27	83	282	33	191
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-4%			2%			-2%			0%	
Storage Length (ft)	325		0	300		400	0		500	250		250
Storage Lanes	2		0	1		1	1		1	2		1
Taper Length (ft)	200			100			100			200		
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Frt		0.992				0.850		0.887				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3502	3581	0	1752	3504	1567	1787	1669	0	3433	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3502	3581	0	1752	3504	1567	1787	1669	0	3433	1863	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			35			15	
Link Distance (ft)		1041			1574			1008			1139	
Travel Time (s)		15.8			23.8			19.6			51.8	
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
Adj. Flow (vph)	244	641	38	67	1341	157	218	30	92	313	37	212
Shared Lane Traffic (%)												
Lane Group Flow (vph)	244	679	0	67	1341	157	218	122	0	313	37	212
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA		Prot	NA	pm+ov
Protected Phases	5	2		1	6	7	3	8		7	4	5
Permitted Phases						6						4
Detector Phase	5	2		1	6	7	3	8		7	4	5
Switch Phase												
Minimum Initial (s)	7.0	12.0		7.0	12.0	7.0	7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	14.0	19.0		14.0	19.0	14.0	14.0	14.0		14.0	14.0	14.0
Total Split (s)	20.0	63.0		15.0	58.0	21.0	28.0	21.0		21.0	14.0	20.0
Total Split (%)	16.7%	52.5%		12.5%	48.3%	17.5%	23.3%	17.5%		17.5%	11.7%	16.7%
Maximum Green (s)	13.0	56.0		8.0	51.0	14.0	21.0	14.0		14.0	7.0	13.0
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	-2.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	6.0		1.0	6.0	3.0	3.0	3.0		3.0	1.0	3.0
Recall Mode	None	C-Max		None	C-Max	None	None	None		None	None	None
Act Effect Green (s)	15.6	63.2		9.6	54.3	74.9	26.4	14.5		15.6	9.3	24.3
Actuated g/C Ratio	0.13	0.53		0.08	0.45	0.62	0.22	0.12		0.13	0.08	0.20
v/c Ratio	0.54	0.36		0.48	0.85	0.16	0.56	0.61		0.70	0.26	0.66
Control Delay	63.6	8.5		62.6	26.5	7.7	49.0	63.0		59.2	57.1	53.6
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	63.6	8.5		62.6	26.5	7.7	49.0	63.0		59.2	57.1	53.6
LOS	E	A		E	C	A	D	E		E	E	D
Approach Delay		23.1			26.1			54.1			57.0	

Stevens Mill and Idlewild Crossing - Stallings, NC
 5: Rite Aid Driveway/Stinson Farms Site Drive & Idlewild Road

2025 Build
 Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	C			C			D			E		
Queue Length 50th (ft)	78	107		50	293	40	159	90		120	27	142
Queue Length 95th (ft)	126	137		m72	428	m47	243	155		170	63	227
Internal Link Dist (ft)	961			1494			928			1059		
Turn Bay Length (ft)	325			300			400			250		
Base Capacity (vph)	455	1884		146	1586	983	396	222		457	143	320
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.54	0.36		0.46	0.85	0.16	0.55	0.55		0.68	0.26	0.66

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 119 (99%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 33.2

Intersection LOS: C

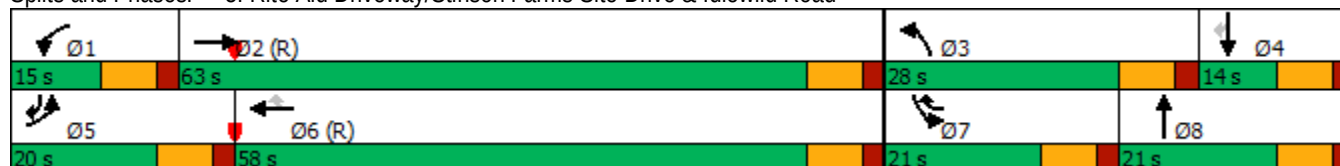
Intersection Capacity Utilization 69.7%

ICU Level of Service C

Analysis Period (min) 15

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

Splits and Phases: 5: Rite Aid Driveway/Stinson Farms Site Drive & Idlewild Road



Stevens Mill and Idlewild Crossing - Stallings, NC
5: Rite Aid Driveway/Stinson Farms Site Drive & Idlewild Road

2025 Build
Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	234	1176	47	160	991	126	282	27	190	232	23	134
Future Volume (vph)	234	1176	47	160	991	126	282	27	190	232	23	134
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-4%			2%			-2%			0%	
Storage Length (ft)	325		0	300		400	0		500	250		250
Storage Lanes	2		0	1		1	1		1	2		1
Taper Length (ft)	200			100			100			200		
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Frt		0.994				0.850		0.869				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3502	3588	0	1752	3504	1567	1787	1635	0	3433	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3502	3588	0	1752	3504	1567	1787	1635	0	3433	1863	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			35			15	
Link Distance (ft)		1041			1574			1008			1139	
Travel Time (s)		15.8			23.8			19.6			51.8	
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
Adj. Flow (vph)	260	1307	52	178	1101	140	313	30	211	258	26	149
Shared Lane Traffic (%)												
Lane Group Flow (vph)	260	1359	0	178	1101	140	313	241	0	258	26	149
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA		Prot	NA	pm+ov
Protected Phases	5	2		1	6	7	3	8		7	4	5
Permitted Phases						6						4
Detector Phase	5	2		1	6	7	3	8		7	4	5
Switch Phase												
Minimum Initial (s)	7.0	12.0		7.0	12.0	7.0	7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	14.0	19.0		14.0	19.0	14.0	14.0	14.0		14.0	14.0	14.0
Total Split (s)	21.0	63.0		25.0	67.0	19.0	37.0	33.0		19.0	15.0	21.0
Total Split (%)	15.0%	45.0%		17.9%	47.9%	13.6%	26.4%	23.6%		13.6%	10.7%	15.0%
Maximum Green (s)	14.0	56.0		18.0	60.0	12.0	30.0	26.0		12.0	8.0	14.0
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	-2.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	6.0		1.0	6.0	3.0	3.0	3.0		3.0	1.0	3.0
Recall Mode	None	C-Max		None	C-Max	None	None	None		None	None	None
Act Effect Green (s)	15.8	62.4		18.0	64.6	83.5	35.6	25.6		14.0	9.6	24.9
Actuated g/C Ratio	0.11	0.45		0.13	0.46	0.60	0.25	0.18		0.10	0.07	0.18
v/c Ratio	0.66	0.85		0.79	0.68	0.15	0.69	0.81		0.75	0.20	0.53
Control Delay	75.0	23.0		78.2	27.0	9.3	57.1	74.9		75.9	65.4	57.9
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	75.0	23.0		78.2	27.0	9.3	57.1	74.9		75.9	65.4	57.9
LOS	E	C		E	C	A	E	E		E	E	E
Approach Delay		31.3			31.6			64.9			69.0	

Stevens Mill and Idlewild Crossing - Stallings, NC
5: Rite Aid Driveway/Stinson Farms Site Drive & Idlewild Road

2025 Build
Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	C			C			E			E		
Queue Length 50th (ft)	118	569		140	427	57	269	208		119	23	118
Queue Length 95th (ft)	m162	#663		m201	m477	m72	#398	#320		#176	55	189
Internal Link Dist (ft)	961			1494			928			1059		
Turn Bay Length (ft)	325			300		400				250		250
Base Capacity (vph)	408	1599		250	1615	935	454	327		343	133	286
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.64	0.85		0.71	0.68	0.15	0.69	0.74		0.75	0.20	0.52

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 133 (95%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 40.1

Intersection LOS: D

Intersection Capacity Utilization 81.0%

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.

Splits and Phases: 5: Rite Aid Driveway/Stinson Farms Site Drive & Idlewild Road

 Ø1 25 s		 Ø2 (R) 63 s		 Ø3 37 s		 Ø4 15 s	
 Ø5 21 s		 Ø6 (R) 67 s		 Ø7 19 s		 Ø8 33 s	

Lanes, Volumes, Timings

5: Rite Aid Driveway/Stinson Farms Site Drive & Idlewild Road

2025 Build Improved

Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	220	577	34	60	1207	141	196	27	83	282	33	191
Future Volume (vph)	220	577	34	60	1207	141	196	27	83	282	33	191
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-4%			2%			-2%			0%	
Storage Length (ft)	325		0	300		400	0		500	250		250
Storage Lanes	2		0	1		1	1		1	2		1
Taper Length (ft)	200			100			100			200		
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Frt		0.992				0.850		0.887				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3502	3581	0	1752	3504	1567	1787	1669	0	3433	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3502	3581	0	1752	3504	1567	1787	1669	0	3433	1863	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			35			15	
Link Distance (ft)		1041			1574			1008			1139	
Travel Time (s)		15.8			23.8			19.6			51.8	
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
Adj. Flow (vph)	244	641	38	67	1341	157	218	30	92	313	37	212
Shared Lane Traffic (%)												
Lane Group Flow (vph)	244	679	0	67	1341	157	218	122	0	313	37	212
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA		Prot	NA	pm+ov
Protected Phases	5	2		1	6	7	3	8		7	4	5
Permitted Phases						6						4
Detector Phase	5	2		1	6	7	3	8		7	4	5
Switch Phase												
Minimum Initial (s)	7.0	12.0		7.0	12.0	7.0	7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	14.0	19.0		14.0	19.0	14.0	14.0	14.0		14.0	14.0	14.0
Total Split (s)	19.0	65.0		15.0	61.0	20.0	26.0	20.0		20.0	14.0	19.0
Total Split (%)	15.8%	54.2%		12.5%	50.8%	16.7%	21.7%	16.7%		16.7%	11.7%	15.8%
Maximum Green (s)	12.0	58.0		8.0	54.0	13.0	19.0	13.0		13.0	7.0	12.0
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	-2.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	6.0		1.0	6.0	3.0	3.0	3.0		3.0	1.0	3.0
Recall Mode	None	C-Max		None	C-Max	None	None	None		None	None	None
Act Effect Green (s)	14.6	64.5		9.6	56.7	76.5	25.3	13.9		14.8	9.0	23.0
Actuated g/C Ratio	0.12	0.54		0.08	0.47	0.64	0.21	0.12		0.12	0.08	0.19
v/c Ratio	0.57	0.35		0.48	0.81	0.16	0.58	0.64		0.74	0.27	0.70
Control Delay	72.1	7.8		76.4	22.9	5.1	51.2	65.7		62.1	57.6	57.1
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	72.1	7.8		76.4	22.9	5.1	51.2	65.7		62.1	57.6	57.1
LOS	E	A		E	C	A	D	E		E	E	E
Approach Delay		24.8			23.4			56.4			59.9	

Lanes, Volumes, Timings
5: Rite Aid Driveway/Stinson Farms Site Drive & Idlewild Road

2025 Build Improved
Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	C			C			E			E		
Queue Length 50th (ft)	90	87		54	474	18	160	90		122	28	146
Queue Length 95th (ft)	134	100		m83	585	m32	#251	156		172	63	229
Internal Link Dist (ft)	961			1494			928			1059		
Turn Bay Length (ft)	325			300			400			250		
Base Capacity (vph)	426	1926		146	1656	1001	376	208		429	139	303
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.57	0.35		0.46	0.81	0.16	0.58	0.59		0.73	0.27	0.70

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 2 (2%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 33.1

Intersection LOS: C

Intersection Capacity Utilization 69.7%

ICU Level of Service C

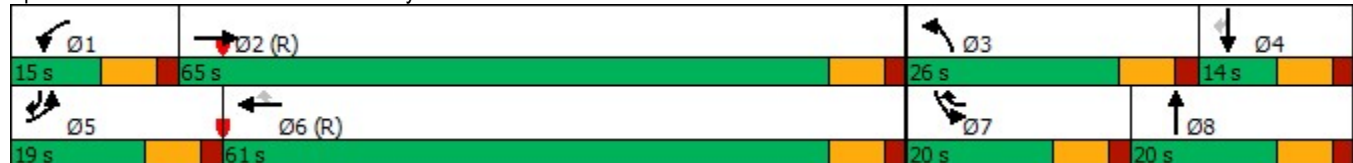
Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

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

Splits and Phases: 5: Rite Aid Driveway/Stinson Farms Site Drive & Idlewild Road



Lanes, Volumes, Timings

5: Rite Aid Driveway/Stinson Farms Site Drive & Idlewild Road

2025 Build - Improved

Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	234	1176	47	160	991	126	282	27	190	232	23	134
Future Volume (vph)	234	1176	47	160	991	126	282	27	190	232	23	134
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-4%			2%			-2%			0%	
Storage Length (ft)	325		0	300		400	0		500	250		250
Storage Lanes	2		0	1		1	1		1	2		1
Taper Length (ft)	200			100			100			200		
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Frt		0.994				0.850		0.869				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3502	3588	0	1752	3504	1567	1787	1635	0	3433	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3502	3588	0	1752	3504	1567	1787	1635	0	3433	1863	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			35			15	
Link Distance (ft)		1041			1574			1008			1139	
Travel Time (s)		15.8			23.8			19.6			51.8	
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
Adj. Flow (vph)	260	1307	52	178	1101	140	313	30	211	258	26	149
Shared Lane Traffic (%)												
Lane Group Flow (vph)	260	1359	0	178	1101	140	313	241	0	258	26	149
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA		Prot	NA	pm+ov
Protected Phases	5	2		1	6	7	3	8		7	4	5
Permitted Phases						6						4
Detector Phase	5	2		1	6	7	3	8		7	4	5
Switch Phase												
Minimum Initial (s)	7.0	12.0		7.0	12.0	7.0	7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	14.0	19.0		14.0	19.0	14.0	14.0	14.0		14.0	14.0	14.0
Total Split (s)	21.0	67.0		24.0	70.0	18.0	35.0	31.0		18.0	14.0	21.0
Total Split (%)	15.0%	47.9%		17.1%	50.0%	12.9%	25.0%	22.1%		12.9%	10.0%	15.0%
Maximum Green (s)	14.0	60.0		17.0	63.0	11.0	28.0	24.0		11.0	7.0	14.0
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	-2.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	6.0		1.0	6.0	3.0	3.0	3.0		3.0	1.0	3.0
Recall Mode	None	C-Max		None	C-Max	None	None	None		None	None	None
Act Effect Green (s)	15.7	64.9		17.5	66.7	84.7	34.2	24.6		13.0	9.0	24.1
Actuated g/C Ratio	0.11	0.46		0.12	0.48	0.60	0.24	0.18		0.09	0.06	0.17
v/c Ratio	0.66	0.82		0.82	0.66	0.15	0.72	0.84		0.81	0.22	0.55
Control Delay	74.9	21.2		92.2	21.3	6.2	59.8	80.2		82.1	66.9	59.4
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	74.9	21.2		92.2	21.3	6.2	59.8	80.2		82.1	66.9	59.4
LOS	E	C		F	C	A	E	F		F	E	E
Approach Delay		29.8			28.7			68.6			73.3	

Lanes, Volumes, Timings
5: Rite Aid Driveway/Stinson Farms Site Drive & Idlewild Road

2025 Build - Improved
Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	C			C			E			E		
Queue Length 50th (ft)	117	547		133	403	43	274	212		120	23	119
Queue Length 95th (ft)	m160	561		m#241	485	m60	#422	#342		#188	56	190
Internal Link Dist (ft)	961			1494			928			1059		
Turn Bay Length (ft)	325			300		400				250		250
Base Capacity (vph)	404	1661		237	1668	948	436	303		318	119	278
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.64	0.82		0.75	0.66	0.15	0.72	0.80		0.81	0.22	0.54

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 8 (6%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.84

Intersection Signal Delay: 39.4

Intersection LOS: D

Intersection Capacity Utilization 81.0%

ICU Level of Service D

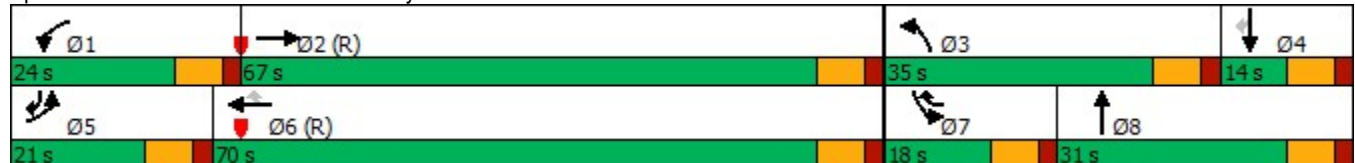
Analysis Period (min) 15

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.

Splits and Phases: 5: Rite Aid Driveway/Stinson Farms Site Drive & Idlewild Road



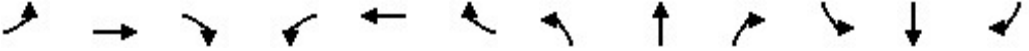
Lanes, Volumes, Timings
5: Rite Aid Driveway/Stinson Farms Site Drive & Idlewild Road

2030 Build Improved
Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	220	644	33	62	1292	141	198	27	83	282	33	191
Future Volume (vph)	220	644	33	62	1292	141	198	27	83	282	33	191
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-4%			2%			-2%			0%	
Storage Length (ft)	325		0	300		400	0		500	250		250
Storage Lanes	2		0	1		1	1		1	2		1
Taper Length (ft)	200			100			100			200		
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Frt		0.993				0.850		0.887				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3502	3585	0	1752	3504	1567	1787	1669	0	3433	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3502	3585	0	1752	3504	1567	1787	1669	0	3433	1863	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			35			15	
Link Distance (ft)		1041			1574			1008			1139	
Travel Time (s)		15.8			23.8			19.6			51.8	
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
Adj. Flow (vph)	244	716	37	69	1436	157	220	30	92	313	37	212
Shared Lane Traffic (%)												
Lane Group Flow (vph)	244	753	0	69	1436	157	220	122	0	313	37	212
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA		Prot	NA	pm+ov
Protected Phases	5	2		1	6	7	3	8		7	4	5
Permitted Phases						6						4
Detector Phase	5	2		1	6	7	3	8		7	4	5
Switch Phase												
Minimum Initial (s)	7.0	12.0		7.0	12.0	7.0	7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	14.0	19.0		14.0	19.0	14.0	14.0	14.0		14.0	14.0	14.0
Total Split (s)	18.0	66.0		15.0	63.0	20.0	25.0	19.0		20.0	14.0	18.0
Total Split (%)	15.0%	55.0%		12.5%	52.5%	16.7%	20.8%	15.8%		16.7%	11.7%	15.0%
Maximum Green (s)	11.0	59.0		8.0	56.0	13.0	18.0	12.0		13.0	7.0	11.0
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	-2.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	6.0		1.0	6.0	3.0	3.0	3.0		3.0	1.0	3.0
Recall Mode	None	C-Max		None	C-Max	None	None	None		None	None	None
Act Effect Green (s)	13.6	65.1		9.6	58.3	78.1	24.7	13.3		14.8	9.0	22.0
Actuated g/C Ratio	0.11	0.54		0.08	0.49	0.65	0.21	0.11		0.12	0.08	0.18
v/c Ratio	0.61	0.39		0.49	0.84	0.15	0.60	0.66		0.74	0.27	0.73
Control Delay	70.3	7.6		81.7	26.9	4.1	52.6	68.7		62.1	57.6	60.5
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	70.3	7.6		81.7	26.9	4.1	52.6	68.7		62.1	57.6	60.5
LOS	E	A		F	C	A	D	E		E	E	E
Approach Delay		23.0			27.1			58.3			61.2	

Lanes, Volumes, Timings
5: Rite Aid Driveway/Stinson Farms Site Drive & Idlewild Road

2030 Build Improved
Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	C			C			E			E		
Queue Length 50th (ft)	87	111		56	537	19	164	91		122	28	148
Queue Length 95th (ft)	132	124		m82	605	m34	#274	#165		172	63	232
Internal Link Dist (ft)	961			1494			928			1059		
Turn Bay Length (ft)	325			300			400			250		
Base Capacity (vph)	397	1944		146	1702	1022	367	194		429	139	290
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.61	0.39		0.47	0.84	0.15	0.60	0.63		0.73	0.27	0.73

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 5 (4%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.84

Intersection Signal Delay: 34.3

Intersection LOS: C

Intersection Capacity Utilization 72.1%

ICU Level of Service C

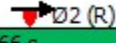
Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

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

Splits and Phases: 5: Rite Aid Driveway/Stinson Farms Site Drive & Idlewild Road

 Ø1	 Ø2 (R)	 Ø3	 Ø4
15 s	66 s	25 s	14 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
18 s	63 s	20 s	19 s

Lanes, Volumes, Timings

5: Rite Aid Driveway/Stinson Farms Site Drive & Idlewild Road

2030 Build - Improved

Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	234	1258	47	167	1068	126	287	27	197	232	23	134
Future Volume (vph)	234	1258	47	167	1068	126	287	27	197	232	23	134
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-4%			2%			-2%			0%	
Storage Length (ft)	325		0	300		400	0		500	250		250
Storage Lanes	2		0	1		1	1		1	2		1
Taper Length (ft)	200			100			100			200		
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Frt		0.995				0.850		0.868				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3502	3592	0	1752	3504	1567	1787	1633	0	3433	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3502	3592	0	1752	3504	1567	1787	1633	0	3433	1863	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			35			15	
Link Distance (ft)		1041			1574			1008			1139	
Travel Time (s)		15.8			23.8			19.6			51.8	
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
Adj. Flow (vph)	260	1398	52	186	1187	140	319	30	219	258	26	149
Shared Lane Traffic (%)												
Lane Group Flow (vph)	260	1450	0	186	1187	140	319	249	0	258	26	149
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA		Prot	NA	pm+ov
Protected Phases	5	2		1	6	7	3	8		7	4	5
Permitted Phases						6						4
Detector Phase	5	2		1	6	7	3	8		7	4	5
Switch Phase												
Minimum Initial (s)	7.0	12.0		7.0	12.0	7.0	7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	14.0	19.0		14.0	19.0	14.0	14.0	14.0		14.0	14.0	14.0
Total Split (s)	18.0	58.0		19.0	59.0	15.0	29.0	28.0		15.0	14.0	18.0
Total Split (%)	15.0%	48.3%		15.8%	49.2%	12.5%	24.2%	23.3%		12.5%	11.7%	15.0%
Maximum Green (s)	11.0	51.0		12.0	52.0	8.0	22.0	21.0		8.0	7.0	11.0
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	-2.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	6.0		1.0	6.0	3.0	3.0	3.0		3.0	1.0	3.0
Recall Mode	None	C-Max		None	C-Max	None	None	None		None	None	None
Act Effect Green (s)	12.9	53.9		14.1	55.1	70.1	28.7	22.1		10.0	9.0	21.3
Actuated g/C Ratio	0.11	0.45		0.12	0.46	0.58	0.24	0.18		0.08	0.08	0.18
v/c Ratio	0.69	0.90		0.91	0.74	0.15	0.75	0.83		0.90	0.19	0.53
Control Delay	66.6	25.4		107.4	19.3	4.5	55.8	70.4		87.9	55.6	50.5
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	66.6	25.4		107.4	19.3	4.5	55.8	70.4		87.9	55.6	50.5
LOS	E	C		F	B	A	E	E		F	E	D
Approach Delay		31.6			28.8			62.2			73.1	

Lanes, Volumes, Timings

5: Rite Aid Driveway/Stinson Farms Site Drive & Idlewild Road

2030 Build - Improved

Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	C			C			E			E		
Queue Length 50th (ft)	97	398		151	402	10	243	186		104	19	99
Queue Length 95th (ft)	m136	#622		m#211	m473	m22	#408	#315		#182	49	165
Internal Link Dist (ft)		961			1494			928			1059	
Turn Bay Length (ft)	325			300		400				250		250
Base Capacity (vph)	379	1612		205	1607	915	426	312		286	139	282
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.69	0.90		0.91	0.74	0.15	0.75	0.80		0.90	0.19	0.53

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 38 (32%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.91

Intersection Signal Delay: 39.0

Intersection LOS: D

Intersection Capacity Utilization 83.9%

ICU Level of Service E

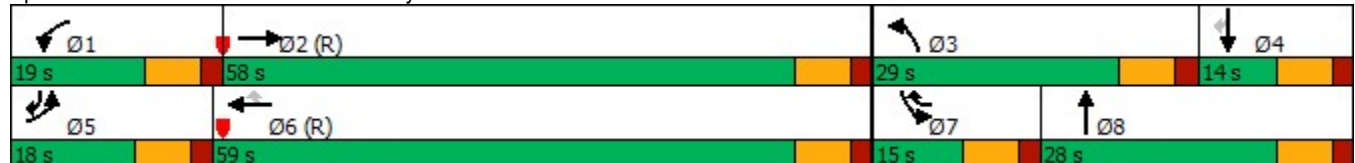
Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

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

Splits and Phases: 5: Rite Aid Driveway/Stinson Farms Site Drive & Idlewild Road



APPENDIX J

Capacity Calculations

Idlewild Road and Stevens Mill Road

Lanes, Volumes, Timings
6: Stevens Mill Road & Idlewild Road

2022 Existing
Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	41	272	40	67	665	46	55	113	78	84	124	195
Future Volume (vph)	41	272	40	67	665	46	55	113	78	84	124	195
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-2%			0%			1%			0%	
Storage Length (ft)	250		0	150		0	275		0	135		150
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	100			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
Frt		0.981			0.990			0.939				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	1846	0	1770	1844	0	1761	1740	0	1770	1863	1583
Flt Permitted	0.131			0.397			0.517			0.350		
Satd. Flow (perm)	246	1846	0	740	1844	0	958	1740	0	652	1863	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		2114			1489			1420			1701	
Travel Time (s)		32.0			22.6			21.5			25.8	
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
Adj. Flow (vph)	46	302	44	74	739	51	61	126	87	93	138	217
Shared Lane Traffic (%)												
Lane Group Flow (vph)	46	346	0	74	790	0	61	213	0	93	138	217
Turn Type	D.P+P	NA		D.P+P	NA		D.P+P	NA		D.P+P	NA	pt+ov
Protected Phases	5	2		1	6		3	8		7	4	4 5
Permitted Phases	6			2			4			8		
Detector Phase	5	2		1	6		3	8		7	4	4 5
Switch Phase												
Minimum Initial (s)	7.0	12.0		7.0	12.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	12.6	18.0		12.8	18.0		12.3	12.5		12.1	12.5	
Total Split (s)	15.0	79.0		15.0	79.0		15.0	41.0		15.0	41.0	
Total Split (%)	10.0%	52.7%		10.0%	52.7%		10.0%	27.3%		10.0%	27.3%	
Maximum Green (s)	9.4	73.0		9.2	73.0		9.7	35.5		9.9	35.5	
Yellow Time (s)	3.0	4.7		3.0	4.7		3.0	4.5		3.0	4.5	
All-Red Time (s)	2.6	1.3		2.8	1.3		2.3	1.0		2.1	1.0	
Lost Time Adjust (s)	-0.6	-1.0		-0.8	-1.0		-0.3	-0.5		-0.1	-0.5	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lag	Lead		Lag	Lead		Lag	Lead		Lag	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	1.0	6.0		1.0	6.0		1.0	6.0		1.0	6.0	
Minimum Gap (s)	1.0	3.0		1.0	3.0		1.0	3.0		1.0	3.0	
Time Before Reduce (s)	0.0	15.0		0.0	15.0		0.0	5.0		0.0	5.0	
Time To Reduce (s)	0.0	40.0		0.0	40.0		0.0	15.0		0.0	15.0	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Act Effect Green (s)	96.2	61.2		97.2	81.2		34.8	26.7		33.8	24.2	44.2
Actuated g/C Ratio	0.64	0.41		0.65	0.54		0.23	0.18		0.23	0.16	0.29
v/c Ratio	0.15	0.46		0.10	0.79		0.21	0.69		0.47	0.46	0.47
Control Delay	13.9	40.4		10.6	35.9		44.4	68.8		55.4	62.6	47.4
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0

Lanes, Volumes, Timings
6: Stevens Mill Road & Idlewild Road

2022 Existing
Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	13.9	40.4		10.6	35.9		44.4	68.8		55.4	62.6	47.4
LOS	B	D		B	D		D	E		E	E	D
Approach Delay		37.3			33.7			63.4			53.8	
Approach LOS		D			C			E			D	
Queue Length 50th (ft)	14	292		23	657		46	198		72	128	171
Queue Length 95th (ft)	34	389		49	825		81	274		114	189	259
Internal Link Dist (ft)		2034			1409			1340			1621	
Turn Bay Length (ft)	250			150			275			135		150
Base Capacity (vph)	311	996		740	998		290	417		234	447	591
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	0.15	0.35		0.10	0.79		0.21	0.51		0.40	0.31	0.37

Intersection Summary

Area Type: Other

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 107 (71%), Referenced to phase 2:EBWB and 6:EBWB, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.79

Intersection Signal Delay: 43.1

Intersection LOS: D

Intersection Capacity Utilization 76.8%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 6: Stevens Mill Road & Idlewild Road

 Ø2 (R)	 Ø1	 Ø4	 Ø3
79 s	15 s	41 s	15 s
 Ø6 (R)	 Ø5	 Ø8	 Ø7
79 s	15 s	41 s	15 s

Lanes, Volumes, Timings
6: Stevens Mill Road & Idlewild Road

05/25/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	234	751	63	51	519	120	68	108	85	84	86	166
Future Volume (vph)	234	751	63	51	519	120	68	108	85	84	86	166
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-2%			0%			1%			0%	
Storage Length (ft)	250		0	150		0	275		0	135		150
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	100			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
Frt		0.988			0.972			0.934				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	1859	0	1770	1811	0	1761	1731	0	1770	1863	1583
Flt Permitted	0.221			0.140			0.534			0.326		
Satd. Flow (perm)	416	1859	0	261	1811	0	990	1731	0	607	1863	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		2114			1489			1420			1701	
Travel Time (s)		32.0			22.6			21.5			25.8	
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
Adj. Flow (vph)	260	834	70	57	577	133	76	120	94	93	96	184
Shared Lane Traffic (%)												
Lane Group Flow (vph)	260	904	0	57	710	0	76	214	0	93	96	184
Turn Type	D.P+P	NA		D.P+P	NA		D.P+P	NA		D.P+P	NA	pt+ov
Protected Phases	5	2		1	6		3	8		7	4	4 5
Permitted Phases	6			2			4			8		
Detector Phase	5	2		1	6		3	8		7	4	4 5
Switch Phase												
Minimum Initial (s)	7.0	12.0		7.0	12.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	12.6	18.0		12.8	18.0		12.3	12.5		12.1	12.5	
Total Split (s)	20.0	120.0		20.0	120.0		15.0	25.0		15.0	25.0	
Total Split (%)	11.1%	66.7%		11.1%	66.7%		8.3%	13.9%		8.3%	13.9%	
Maximum Green (s)	14.4	114.0		14.2	114.0		9.7	19.5		9.9	19.5	
Yellow Time (s)	3.0	4.7		3.0	4.7		3.0	4.5		3.0	4.5	
All-Red Time (s)	2.6	1.3		2.8	1.3		2.3	1.0		2.1	1.0	
Lost Time Adjust (s)	-0.6	-1.0		-0.8	-1.0		-0.3	-0.5		-0.1	-0.5	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lag	Lead		Lag	Lead		Lag	Lead		Lag	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	1.0	6.0		1.0	6.0		1.0	6.0		1.0	6.0	
Minimum Gap (s)	1.0	3.0		1.0	3.0		1.0	3.0		1.0	3.0	
Time Before Reduce (s)	0.0	15.0		0.0	15.0		0.0	5.0		0.0	5.0	
Time To Reduce (s)	0.0	40.0		0.0	40.0		0.0	15.0		0.0	15.0	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Act Effect Green (s)	120.0	112.6		121.1	104.1		40.0	31.8		40.0	18.0	39.1
Actuated g/C Ratio	0.67	0.63		0.67	0.58		0.22	0.18		0.22	0.10	0.22
v/c Ratio	0.65	0.78		0.22	0.68		0.24	0.70		0.50	0.52	0.53
Control Delay	32.7	30.5		12.4	29.7		60.3	81.5		73.4	86.1	68.6
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0

Lanes, Volumes, Timings

6: Stevens Mill Road & Idlewild Road

05/25/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	32.7	30.5		12.4	29.7		60.3	81.5		73.4	86.1	68.6
LOS	C	C		B	C		E	F		E	F	E
Approach Delay		31.0			28.4			75.9			74.3	
Approach LOS		C			C			E			E	
Queue Length 50th (ft)	110	830		21	646		70	234		86	110	186
Queue Length 95th (ft)	114	913		29	607		131	#474		156	176	284
Internal Link Dist (ft)		2034			1409			1340			1621	
Turn Bay Length (ft)	250			150			275			135		150
Base Capacity (vph)	413	1195		308	1158		313	306		205	216	369
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	0.63	0.76		0.19	0.61		0.24	0.70		0.45	0.44	0.50

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 0 (0%), Referenced to phase 2:EBWB and 6:EBWB, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.78

Intersection Signal Delay: 41.5

Intersection LOS: D

Intersection Capacity Utilization 82.6%

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: Stevens Mill Road & Idlewild Road

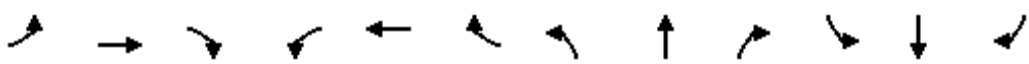
														
Ø2 (R)						Ø1		Ø4				Ø3		
120 s						20 s		25 s				15 s		
						Ø5		Ø8				Ø7		
Ø6 (R)														
120 s						20 s		25 s				15 s		

Stevens Mill and Idlewild Crossing - Stallings, NC

6: Stevens Mill Road & Idlewild Road

2025 No-Build

Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	154	492	135	69	874	47	142	122	80	87	130	302
Future Volume (vph)	154	492	135	69	874	47	142	122	80	87	130	302
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-2%			0%			1%			0%	
Storage Length (ft)	0		0	250		500	500		500	250		275
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.968			0.992				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	1821	0	1770	3511	0	1761	1853	1575	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1787	1821	0	1770	3511	0	1761	1853	1575	1770	1863	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		2114			1489			1420			1701	
Travel Time (s)		32.0			22.6			21.5			25.8	
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
Adj. Flow (vph)	171	547	150	77	971	52	158	136	89	97	144	336
Shared Lane Traffic (%)												
Lane Group Flow (vph)	171	697	0	77	1023	0	158	136	89	97	144	336
Turn Type	Prot	NA		Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	5	2		1	6		3	8	1	7	4	5
Permitted Phases									8			4
Detector Phase	5	2		1	6		3	8	1	7	4	5
Switch Phase												
Minimum Initial (s)	7.0	12.0		7.0	12.0		7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	14.0	19.0		14.0	19.0		14.0	14.0	14.0	14.0	14.0	14.0
Total Split (s)	27.0	66.0		14.0	53.0		21.0	22.0	14.0	18.0	19.0	27.0
Total Split (%)	22.5%	55.0%		11.7%	44.2%		17.5%	18.3%	11.7%	15.0%	15.8%	22.5%
Maximum Green (s)	20.0	59.0		7.0	46.0		14.0	15.0	7.0	11.0	12.0	20.0
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	-2.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	6.0		1.0	6.0		1.0	6.0	1.0	1.0	6.0	1.0
Recall Mode	None	C-Max		None	C-Max		None	None	None	None	None	None
Act Effect Green (s)	17.0	62.1		9.0	54.1		14.5	17.5	31.5	11.4	14.5	36.4
Actuated g/C Ratio	0.14	0.52		0.08	0.45		0.12	0.15	0.26	0.10	0.12	0.30
v/c Ratio	0.68	0.74		0.58	0.65		0.75	0.50	0.22	0.58	0.64	0.70
Control Delay	50.5	30.7		71.9	29.0		72.2	54.5	36.3	65.7	64.4	45.0
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.5	30.7		71.9	29.0		72.2	54.5	36.3	65.7	64.4	45.0
LOS	D	C		E	C		E	D	D	E	E	D
Approach Delay		34.6			32.0			57.6			53.3	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	C			C			E			D		
Queue Length 50th (ft)	97	439		59	321		118	98	54	73	108	231
Queue Length 95th (ft)	m143	550		#119	428		#204	166	100	129	#191	320
Internal Link Dist (ft)	2034			1409			1340			1621		
Turn Bay Length (ft)				250			500			250		
Base Capacity (vph)	327	941		132	1582		234	274	413	191	224	546
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.52	0.74		0.58	0.65		0.68	0.50	0.22	0.51	0.64	0.62

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 110 (92%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.75

Intersection Signal Delay: 40.3

Intersection LOS: D

Intersection Capacity Utilization 71.3%

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.

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

Splits and Phases: 6: Stevens Mill Road & Idlewild Road

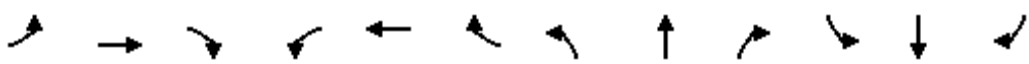


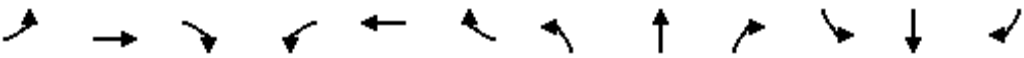
Stevens Mill and Idlewild Crossing - Stallings, NC

6: Stevens Mill Road & Idlewild Road

2025 No-Build

Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	328	938	136	53	723	124	152	115	88	87	96	271
Future Volume (vph)	328	938	136	53	723	124	152	115	88	87	96	271
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-2%			0%			1%			0%	
Storage Length (ft)	0		0	250		500	500		500	250		275
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.981			0.978				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	1846	0	1770	3461	0	1761	1853	1575	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1787	1846	0	1770	3461	0	1761	1853	1575	1770	1863	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		2114			1489			1420			1701	
Travel Time (s)		32.0			22.6			21.5			25.8	
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
Adj. Flow (vph)	364	1042	151	59	803	138	169	128	98	97	107	301
Shared Lane Traffic (%)												
Lane Group Flow (vph)	364	1193	0	59	941	0	169	128	98	97	107	301
Turn Type	Prot	NA		Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	5	2		1	6		3	8	1	7	4	5
Permitted Phases									8			4
Detector Phase	5	2		1	6		3	8	1	7	4	5
Switch Phase												
Minimum Initial (s)	7.0	12.0		7.0	12.0		7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	14.0	19.0		14.0	19.0		14.0	14.0	14.0	14.0	14.0	14.0
Total Split (s)	46.0	94.0		14.0	62.0		18.0	18.0	14.0	14.0	14.0	46.0
Total Split (%)	32.9%	67.1%		10.0%	44.3%		12.9%	12.9%	10.0%	10.0%	10.0%	32.9%
Maximum Green (s)	39.0	87.0		7.0	55.0		11.0	11.0	7.0	7.0	7.0	39.0
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	-2.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	6.0		1.0	6.0		1.0	6.0	1.0	1.0	6.0	1.0
Recall Mode	None	C-Max		None	C-Max		None	None	None	None	None	None
Act Effect Green (s)	33.6	89.0		9.0	64.4		13.0	13.0	27.0	9.0	9.0	47.6
Actuated g/C Ratio	0.24	0.64		0.06	0.46		0.09	0.09	0.19	0.06	0.06	0.34
v/c Ratio	0.85	1.02		0.52	0.59		1.04	0.74	0.32	0.86	0.90	0.56
Control Delay	53.9	47.7		80.3	31.0		140.7	87.1	52.1	117.0	123.0	41.2
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.9	47.7		80.3	31.0		140.7	87.1	52.1	117.0	123.0	41.2
LOS	D	D		F	C		F	F	D	F	F	D
Approach Delay		49.2			33.9			101.4			73.1	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	D					C					F	
Queue Length 50th (ft)	244	~1156		53	332		~165	116	78	89	99	221
Queue Length 95th (ft)	347	#1428		103	440		#316	#215	135	#197	#216	295
Internal Link Dist (ft)	2034					1409					1621	
Turn Bay Length (ft)	250					500					275	
Base Capacity (vph)	523	1173		113	1591		163	172	303	113	119	621
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.70	1.02		0.52	0.59		1.04	0.74	0.32	0.86	0.90	0.48

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 70 (50%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 140

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.04

Intersection Signal Delay: 54.2

Intersection LOS: D

Intersection Capacity Utilization 91.0%

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: 6: Stevens Mill Road & Idlewild Road

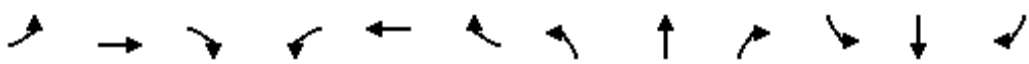


Stevens Mill and Idlewild Crossing - Stallings, NC

2025 Build

6: Stevens Mill Road & Idlewild Road

Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	269	475	135	69	907	80	175	155	80	161	187	316
Future Volume (vph)	269	475	135	69	907	80	175	155	80	161	187	316
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-2%			0%			1%			0%	
Storage Length (ft)	0		0	250		500	500		500	250		275
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.967			0.988				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	1819	0	1770	3497	0	1761	1853	1575	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1787	1819	0	1770	3497	0	1761	1853	1575	1770	1863	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		540			1489			1420			440	
Travel Time (s)		8.2			22.6			21.5			6.7	
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
Adj. Flow (vph)	299	528	150	77	1008	89	194	172	89	179	208	351
Shared Lane Traffic (%)												
Lane Group Flow (vph)	299	678	0	77	1097	0	194	172	89	179	208	351
Turn Type	Prot	NA		Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	5	2		1	6		3	8	1	7	4	5
Permitted Phases									8			4
Detector Phase	5	2		1	6		3	8	1	7	4	5
Switch Phase												
Minimum Initial (s)	7.0	12.0		7.0	12.0		7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	14.0	19.0		14.0	19.0		14.0	14.0	14.0	14.0	14.0	14.0
Total Split (s)	27.0	66.0		14.0	53.0		21.0	22.0	14.0	18.0	19.0	27.0
Total Split (%)	22.5%	55.0%		11.7%	44.2%		17.5%	18.3%	11.7%	15.0%	15.8%	22.5%
Maximum Green (s)	20.0	59.0		7.0	46.0		14.0	15.0	7.0	11.0	12.0	20.0
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	-2.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	6.0		1.0	6.0		1.0	6.0	1.0	1.0	6.0	1.0
Recall Mode	None	C-Max		None	C-Max		None	None	None	None	None	None
Act Effect Green (s)	21.7	61.0		9.0	48.3		15.5	17.0	31.0	13.0	14.5	41.2
Actuated g/C Ratio	0.18	0.51		0.08	0.40		0.13	0.14	0.26	0.11	0.12	0.34
v/c Ratio	0.93	0.73		0.58	0.78		0.86	0.66	0.22	0.94	0.92	0.65
Control Delay	71.7	32.2		71.9	36.0		83.6	61.6	36.8	104.1	95.7	40.0
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.7	32.2		71.9	36.0		83.6	61.6	36.8	104.1	95.7	40.0
LOS	E	C		E	D		F	E	D	F	F	D
Approach Delay		44.3			38.4			66.1			71.2	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	D			D			E			E		
Queue Length 50th (ft)	207	423		59	385		148	128	54	140	163	229
Queue Length 95th (ft)	#390	534		#119	473		#273	205	100	#281	#315	337
Internal Link Dist (ft)	460			1409			1340			360		
Turn Bay Length (ft)				250			500			250		
Base Capacity (vph)	327	924		132	1408		234	262	406	191	225	547
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.91	0.73		0.58	0.78		0.83	0.66	0.22	0.94	0.92	0.64

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 110 (92%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.94

Intersection Signal Delay: 51.1

Intersection LOS: D

Intersection Capacity Utilization 78.7%

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: Stevens Mill Road & Idlewild Road

 Ø1	 Ø2 (R)	 Ø3	 Ø4
14 s	66 s	21 s	19 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
27 s	53 s	18 s	22 s

Stevens Mill and Idlewild Crossing - Stallings, NC

2025 Build

6: Stevens Mill Road & Idlewild Road

Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	507	898	136	53	769	170	198	161	88	219	188	294
Future Volume (vph)	507	898	136	53	769	170	198	161	88	219	188	294
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-2%			0%			1%			0%	
Storage Length (ft)	0		0	250		500	500		500	250		275
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.980			0.973				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	1844	0	1770	3444	0	1761	1853	1575	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1787	1844	0	1770	3444	0	1761	1853	1575	1770	1863	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		540			1489			1420			440	
Travel Time (s)		8.2			22.6			21.5			6.7	
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
Adj. Flow (vph)	563	998	151	59	854	189	220	179	98	243	209	327
Shared Lane Traffic (%)												
Lane Group Flow (vph)	563	1149	0	59	1043	0	220	179	98	243	209	327
Turn Type	Prot	NA		Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	5	2		1	6		3	8	1	7	4	5
Permitted Phases									8			4
Detector Phase	5	2		1	6		3	8	1	7	4	5
Switch Phase												
Minimum Initial (s)	7.0	12.0		7.0	12.0		7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	14.0	19.0		14.0	19.0		14.0	14.0	14.0	14.0	14.0	14.0
Total Split (s)	46.0	94.0		14.0	62.0		18.0	18.0	14.0	14.0	14.0	46.0
Total Split (%)	32.9%	67.1%		10.0%	44.3%		12.9%	12.9%	10.0%	10.0%	10.0%	32.9%
Maximum Green (s)	39.0	87.0		7.0	55.0		11.0	11.0	7.0	7.0	7.0	39.0
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	-2.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	6.0		1.0	6.0		1.0	6.0	1.0	1.0	6.0	1.0
Recall Mode	None	C-Max		None	C-Max		None	None	None	None	None	None
Act Effect Green (s)	41.0	89.0		9.0	57.0		13.0	13.0	27.0	9.0	9.0	55.0
Actuated g/C Ratio	0.29	0.64		0.06	0.41		0.09	0.09	0.19	0.06	0.06	0.39
v/c Ratio	1.08	0.98		0.52	0.74		1.35	1.04	0.32	2.15	1.76	0.53
Control Delay	90.9	36.3		80.3	39.3		238.4	139.8	52.1	575.0	408.3	36.3
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	90.9	36.3		80.3	39.3		238.4	139.8	52.1	575.0	408.3	36.3
LOS	F	D		F	D		F	F	D	F	F	D
Approach Delay		54.2			41.5			166.1			304.2	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	D			D			F			F		
Queue Length 50th (ft)	~557	1025		53	421		~261	~176	78	~352	~282	226
Queue Length 95th (ft)	m#760	#1346		103	506		#431	#333	135	#527	#448	324
Internal Link Dist (ft)		460			1409			1340			360	
Turn Bay Length (ft)				250			500		500	250		275
Base Capacity (vph)	523	1172		113	1402		163	172	303	113	119	621
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	1.08	0.98		0.52	0.74		1.35	1.04	0.32	2.15	1.76	0.53

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 70 (50%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 140

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 2.15

Intersection Signal Delay: 112.0

Intersection LOS: F

Intersection Capacity Utilization 98.9%

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.

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

Splits and Phases: 6: Stevens Mill Road & Idlewild Road



Lanes, Volumes, Timings
6: Stevens Mill Road & Idlewild Road

2025 Build Improved
Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	269	475	135	69	907	80	175	155	80	161	187	316
Future Volume (vph)	269	475	135	69	907	80	175	155	80	161	187	316
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-2%			0%			1%			0%	
Storage Length (ft)	500		0	250		500	250		300	300		300
Storage Lanes	1		0	1		2	2		1	2		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	0.97	1.00	1.00	0.97	1.00	1.00
Frt		0.967				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	3457	0	1770	3539	1583	3416	1853	1575	3433	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1787	3457	0	1770	3539	1583	3416	1853	1575	3433	1863	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		540			1489			1420			440	
Travel Time (s)		8.2			22.6			21.5			6.7	
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
Adj. Flow (vph)	299	528	150	77	1008	89	194	172	89	179	208	351
Shared Lane Traffic (%)												
Lane Group Flow (vph)	299	678	0	77	1008	89	194	172	89	179	208	351
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	5	2		1	6	7	3	8	1	7	4	5
Permitted Phases						6			8			4
Detector Phase	5	2		1	6	7	3	8	1	7	4	5
Switch Phase												
Minimum Initial (s)	7.0	12.0		7.0	12.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	14.0	19.0		14.0	19.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
Total Split (s)	30.0	65.0		16.0	51.0	15.0	15.0	24.0	16.0	15.0	24.0	30.0
Total Split (%)	25.0%	54.2%		13.3%	42.5%	12.5%	12.5%	20.0%	13.3%	12.5%	20.0%	25.0%
Maximum Green (s)	23.0	58.0		9.0	44.0	8.0	8.0	17.0	9.0	8.0	17.0	23.0
Yellow Time (s)	5.0	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	2.0
Lost Time Adjust (s)	-2.0	-2.0		-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	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	6.0		1.0	6.0	1.0	1.0	6.0	1.0	1.0	6.0	1.0
Recall Mode	None	C-Max		None	C-Max	None	None	None	None	None	None	None
Act Effect Green (s)	23.2	61.4		10.1	48.3	63.1	9.8	18.7	33.8	9.8	18.7	46.9
Actuated g/C Ratio	0.19	0.51		0.08	0.40	0.53	0.08	0.16	0.28	0.08	0.16	0.39
v/c Ratio	0.86	0.38		0.52	0.71	0.11	0.70	0.60	0.20	0.64	0.72	0.57
Control Delay	70.8	18.7		65.1	33.9	15.5	67.4	56.5	33.8	58.3	52.3	26.1
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	70.8	18.7		65.1	33.9	15.5	67.4	56.5	33.8	58.3	52.3	26.1
LOS	E	B		E	C	B	E	E	C	E	D	C
Approach Delay		34.6			34.5			56.7			41.3	

Lanes, Volumes, Timings
6: Stevens Mill Road & Idlewild Road

2025 Build Improved
Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	C			C			E			D		
Queue Length 50th (ft)	243	166		58	350	35	76	125	52	63	157	217
Queue Length 95th (ft)	#369	212		109	432	64	#117	200	96	102	#255	317
Internal Link Dist (ft)	460			1409			1340			360		
Turn Bay Length (ft)	500			250		500	250		300	300		300
Base Capacity (vph)	372	1769		162	1424	835	284	293	455	286	294	641
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.80	0.38		0.48	0.71	0.11	0.68	0.59	0.20	0.63	0.71	0.55

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 88 (73%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.86

Intersection Signal Delay: 39.1

Intersection LOS: D

Intersection Capacity Utilization 72.3%

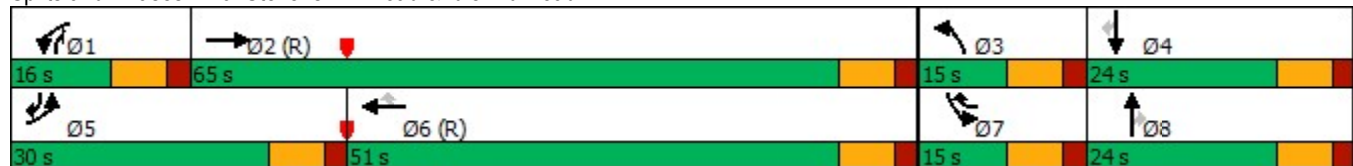
ICU Level of Service C

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 6: Stevens Mill Road & Idlewild Road



Lanes, Volumes, Timings
6: Stevens Mill Road & Idlewild Road

2025 Build - Improved
Timing Plan: PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	507	898	136	53	769	170	198	161	88	219	188	294
Future Volume (vph)	507	898	136	53	769	170	198	161	88	219	188	294
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-2%			0%			1%			0%	
Storage Length (ft)	500		0	250		500	250		300	300		300
Storage Lanes	1		0	1		2	2		1	2		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	0.97	1.00	1.00	0.97	1.00	1.00
Frt		0.980				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	3503	0	1770	3539	1583	3416	1853	1575	3433	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1787	3503	0	1770	3539	1583	3416	1853	1575	3433	1863	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		540			1489			1420			440	
Travel Time (s)		8.2			22.6			21.5			6.7	
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
Adj. Flow (vph)	563	998	151	59	854	189	220	179	98	243	209	327
Shared Lane Traffic (%)												
Lane Group Flow (vph)	563	1149	0	59	854	189	220	179	98	243	209	327
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	5	2		1	6	7	3	8	1	7	4	5
Permitted Phases						6			8			4
Detector Phase	5	2		1	6	7	3	8	1	7	4	5
Switch Phase												
Minimum Initial (s)	7.0	12.0		7.0	12.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	14.0	19.0		14.0	19.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
Total Split (s)	49.0	87.0		15.0	53.0	16.0	16.0	22.0	15.0	16.0	22.0	49.0
Total Split (%)	35.0%	62.1%		10.7%	37.9%	11.4%	11.4%	15.7%	10.7%	11.4%	15.7%	35.0%
Maximum Green (s)	42.0	80.0		8.0	46.0	9.0	9.0	15.0	8.0	9.0	15.0	42.0
Yellow Time (s)	5.0	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	2.0
Lost Time Adjust (s)	-2.0	-2.0		-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	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	6.0		1.0	6.0	1.0	1.0	6.0	1.0	1.0	6.0	1.0
Recall Mode	None	C-Max		None	C-Max	None	None	None	None	None	None	None
Act Effect Green (s)	44.0	82.4		9.6	48.0	64.0	11.0	17.0	31.6	11.0	17.0	66.0
Actuated g/C Ratio	0.31	0.59		0.07	0.34	0.46	0.08	0.12	0.23	0.08	0.12	0.47
v/c Ratio	1.00	0.56		0.49	0.70	0.26	0.82	0.80	0.28	0.90	0.92	0.44
Control Delay	65.0	12.2		76.8	43.6	24.7	87.2	84.6	47.1	87.9	94.5	30.1
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.0	12.2		76.8	43.6	24.7	87.2	84.6	47.1	87.9	94.5	30.1
LOS	E	B		E	D	C	F	F	D	F	F	C
Approach Delay		29.6			42.2			78.4			65.4	

Lanes, Volumes, Timings
6: Stevens Mill Road & Idlewild Road

2025 Build - Improved
Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	C			D			E			E		
Queue Length 50th (ft)	~462	375		53	353	104	103	161	74	117	195	237
Queue Length 95th (ft)	#756	377		102	431	161	#171	#282	129	#194	#354	331
Internal Link Dist (ft)	460			1409			1340			360		
Turn Bay Length (ft)	500			250		500	250		300	300		300
Base Capacity (vph)	561	2061		126	1213	723	268	225	360	269	226	746
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.00	0.56		0.47	0.70	0.26	0.82	0.80	0.27	0.90	0.92	0.44

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 96 (69%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.00

Intersection Signal Delay: 45.7

Intersection LOS: D

Intersection Capacity Utilization 81.7%

ICU Level of Service D

Analysis Period (min) 15

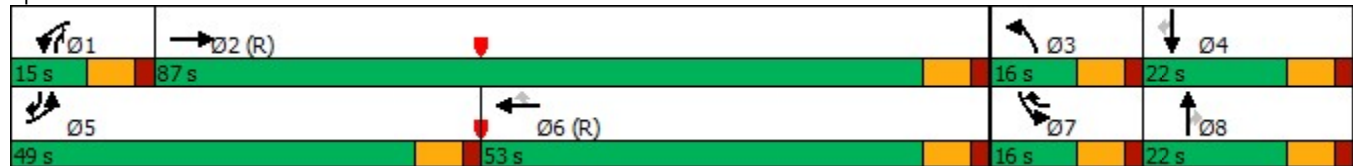
~ Volume exceeds capacity, queue is theoretically infinite.

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: 6: Stevens Mill Road & Idlewild Road



Lanes, Volumes, Timings
6: Stevens Mill Road & Idlewild Road

2030 Build Improved
Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	288	514	145	73	962	83	184	161	84	165	193	339
Future Volume (vph)	288	514	145	73	962	83	184	161	84	165	193	339
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-2%			0%			1%			0%	
Storage Length (ft)	500		0	250		500	250		300	300		300
Storage Lanes	1		0	1		2	2		1	2		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	0.97	1.00	1.00	0.97	1.00	1.00
Frt		0.967				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	3457	0	1770	3539	1583	3416	1853	1575	3433	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1787	3457	0	1770	3539	1583	3416	1853	1575	3433	1863	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		540			1489			1420			440	
Travel Time (s)		8.2			22.6			21.5			6.7	
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
Adj. Flow (vph)	320	571	161	81	1069	92	204	179	93	183	214	377
Shared Lane Traffic (%)												
Lane Group Flow (vph)	320	732	0	81	1069	92	204	179	93	183	214	377
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	5	2		1	6	7	3	8	1	7	4	5
Permitted Phases						6			8			4
Detector Phase	5	2		1	6	7	3	8	1	7	4	5
Switch Phase												
Minimum Initial (s)	7.0	12.0		7.0	12.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	14.0	19.0		14.0	19.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
Total Split (s)	33.0	66.0		17.0	50.0	14.0	14.0	23.0	17.0	14.0	23.0	33.0
Total Split (%)	27.5%	55.0%		14.2%	41.7%	11.7%	11.7%	19.2%	14.2%	11.7%	19.2%	27.5%
Maximum Green (s)	26.0	59.0		10.0	43.0	7.0	7.0	16.0	10.0	7.0	16.0	26.0
Yellow Time (s)	5.0	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	2.0
Lost Time Adjust (s)	-2.0	-2.0		-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	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	6.0		1.0	6.0	1.0	1.0	6.0	1.0	1.0	6.0	1.0
Recall Mode	None	C-Max		None	C-Max	None	None	None	None	None	None	None
Act Effect Green (s)	25.3	62.4		10.6	47.8	61.8	9.0	18.0	33.6	9.0	18.0	48.2
Actuated g/C Ratio	0.21	0.52		0.09	0.40	0.52	0.08	0.15	0.28	0.08	0.15	0.40
v/c Ratio	0.85	0.41		0.52	0.76	0.11	0.80	0.65	0.21	0.71	0.77	0.59
Control Delay	59.0	15.2		64.1	36.1	16.4	77.1	59.8	34.2	64.7	56.1	25.4
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.0	15.2		64.1	36.1	16.4	77.1	59.8	34.2	64.7	56.1	25.4
LOS	E	B		E	D	B	E	E	C	E	E	C
Approach Delay		28.5			36.4			62.2			43.2	

Lanes, Volumes, Timings

6: Stevens Mill Road & Idlewild Road

2030 Build Improved
Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	C			D			E			D		
Queue Length 50th (ft)	238	184		61	382	37	81	132	55	64	164	233
Queue Length 95th (ft)	#366	235		113	474	68	#142	211	99	#120	#276	339
Internal Link Dist (ft)	460			1409			1340			360		
Turn Bay Length (ft)	500			250		500	250		300	300		300
Base Capacity (vph)	416	1797		177	1408	814	256	277	459	257	279	672
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.77	0.41		0.46	0.76	0.11	0.80	0.65	0.20	0.71	0.77	0.56

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 85 (71%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 39.0

Intersection LOS: D

Intersection Capacity Utilization 75.2%

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: Stevens Mill Road & Idlewild Road

 Ø1	 Ø2 (R)	 Ø3	 Ø4
17 s	66 s	14 s	23 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
33 s	50 s	14 s	23 s

Lanes, Volumes, Timings
6: Stevens Mill Road & Idlewild Road

2030 Build - Improved

Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	531	953	145	55	818	176	209	167	92	223	192	318
Future Volume (vph)	531	953	145	55	818	176	209	167	92	223	192	318
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-2%			0%			1%			0%	
Storage Length (ft)	500		0	250		500	250		300	300		300
Storage Lanes	1		0	1		2	2		1	2		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	0.97	1.00	1.00	0.97	1.00	1.00
Frt		0.980				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	3503	0	1770	3539	1583	3416	1853	1575	3433	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1787	3503	0	1770	3539	1583	3416	1853	1575	3433	1863	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		540			1489			1420			440	
Travel Time (s)		8.2			22.6			21.5			6.7	
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
Adj. Flow (vph)	590	1059	161	61	909	196	232	186	102	248	213	353
Shared Lane Traffic (%)												
Lane Group Flow (vph)	590	1220	0	61	909	196	232	186	102	248	213	353
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	5	2		1	6	7	3	8	1	7	4	5
Permitted Phases						6			8			4
Detector Phase	5	2		1	6	7	3	8	1	7	4	5
Switch Phase												
Minimum Initial (s)	7.0	12.0		7.0	12.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	14.0	19.0		14.0	19.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
Total Split (s)	47.0	72.0		14.0	39.0	14.0	14.0	20.0	14.0	14.0	20.0	47.0
Total Split (%)	39.2%	60.0%		11.7%	32.5%	11.7%	11.7%	16.7%	11.7%	11.7%	16.7%	39.2%
Maximum Green (s)	40.0	65.0		7.0	32.0	7.0	7.0	13.0	7.0	7.0	13.0	40.0
Yellow Time (s)	5.0	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	2.0
Lost Time Adjust (s)	-2.0	-2.0		-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	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	6.0		1.0	6.0	1.0	1.0	6.0	1.0	1.0	6.0	1.0
Recall Mode	None	C-Max		None	C-Max	None	None	None	None	None	None	None
Act Effect Green (s)	41.3	67.0		9.0	34.7	48.7	9.0	15.0	29.0	9.0	15.0	61.3
Actuated g/C Ratio	0.34	0.56		0.08	0.29	0.41	0.08	0.12	0.24	0.08	0.12	0.51
v/c Ratio	0.96	0.62		0.46	0.89	0.30	0.91	0.81	0.27	0.96	0.92	0.44
Control Delay	44.4	11.1		65.1	52.7	26.1	91.8	76.8	39.2	95.2	81.9	22.0
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.4	11.1		65.1	52.7	26.1	91.8	76.8	39.2	95.2	81.9	22.0
LOS	D	B		E	D	C	F	E	D	F	F	C
Approach Delay		22.0			48.9			76.1			60.0	

Lanes, Volumes, Timings
6: Stevens Mill Road & Idlewild Road

2030 Build - Improved
Timing Plan: PM Peak Hour

													
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Approach LOS	C						D			E			E
Queue Length 50th (ft)	341	324		46	357	103	93	142	64	92	169	215	
Queue Length 95th (ft)	m#556	m374		92	#476	163	#169	#261	116	#182	#308	311	
Internal Link Dist (ft)		460			1409			1340			360		
Turn Bay Length (ft)	500			250		500	250		300	300		300	
Base Capacity (vph)	625	1955		132	1024	643	256	231	380	257	232	817	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.94	0.62		0.46	0.89	0.30	0.91	0.81	0.27	0.96	0.92	0.43	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.96

Intersection Signal Delay: 43.0

Intersection LOS: D

Intersection Capacity Utilization 84.8%

ICU Level of Service E

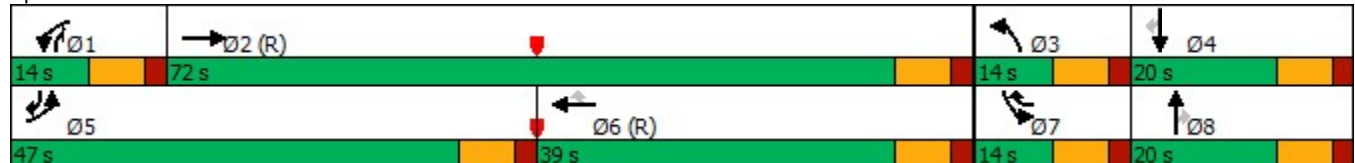
Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

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

Splits and Phases: 6: Stevens Mill Road & Idlewild Road



APPENDIX K

Capacity Calculations

Idlewild Road and Access A

Stevens Mill and Idlewild Crossing - Stallings, NC
7: Idlewild Road & Access A

2025 Build
Timing Plan: AM Peak Hour

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑	↗		↗
Traffic Vol, veh/h	0	879	1294	104	0	109
Future Vol, veh/h	0	879	1294	104	0	109
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	100	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	-2	2	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	977	1438	116	0	121
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	-	0	-	0	-	719
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	371
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	371
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		19.3		
HCM LOS				C		
Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1		
Capacity (veh/h)	-	-	-	371		
HCM Lane V/C Ratio	-	-	-	0.326		
HCM Control Delay (s)	-	-	-	19.3		
HCM Lane LOS	-	-	-	C		
HCM 95th %tile Q(veh)	-	-	-	1.4		

Stevens Mill and Idlewild Crossing - Stallings, NC
7: Idlewild Road & Access A

2025 Build
Timing Plan: PM Peak Hour

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑	↗		↗
Traffic Vol, veh/h	0	1541	1135	126	0	149
Future Vol, veh/h	0	1541	1135	126	0	149
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	100	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	-2	2	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1712	1261	140	0	166
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	-	0	-	0	-	631
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	424
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	424
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		18.8		
HCM LOS	C					
Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1		
Capacity (veh/h)	-	-	-	424		
HCM Lane V/C Ratio	-	-	-	0.39		
HCM Control Delay (s)	-	-	-	18.8		
HCM Lane LOS	-	-	-	C		
HCM 95th %tile Q(veh)	-	-	-	1.8		

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑	↗		↗
Traffic Vol, veh/h	0	879	1294	104	0	109
Future Vol, veh/h	0	879	1294	104	0	109
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	100	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	-2	2	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	977	1438	116	0	121
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	-	0	-	0	-	719
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	371
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	371
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		19.3		
HCM LOS	C					
Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1		
Capacity (veh/h)	-	-	-	371		
HCM Lane V/C Ratio	-	-	-	0.326		
HCM Control Delay (s)	-	-	-	19.3		
HCM Lane LOS	-	-	-	C		
HCM 95th %tile Q(veh)	-	-	-	1.4		

HCM 6th TWSC
7: Idlewild Road & Access A

2025 Build - Improved
Timing Plan: PM Peak Hour

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑	↑		↑
Traffic Vol, veh/h	0	1541	1135	126	0	149
Future Vol, veh/h	0	1541	1135	126	0	149
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	100	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	-2	2	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1712	1261	140	0	166

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	-	0	- 0 - 631
Stage 1	-	-	- - -
Stage 2	-	-	- - -
Critical Hdwy	-	-	- - 6.94
Critical Hdwy Stg 1	-	-	- - -
Critical Hdwy Stg 2	-	-	- - -
Follow-up Hdwy	-	-	- - 3.32
Pot Cap-1 Maneuver	0	-	- 0 424
Stage 1	0	-	- 0 -
Stage 2	0	-	- 0 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	- - 424
Mov Cap-2 Maneuver	-	-	- - -
Stage 1	-	-	- - -
Stage 2	-	-	- - -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	18.8
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	424
HCM Lane V/C Ratio	-	-	-	0.39
HCM Control Delay (s)	-	-	-	18.8
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	1.8

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑	↗		↗
Traffic Vol, veh/h	0	947	1381	104	0	109
Future Vol, veh/h	0	947	1381	104	0	109
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	100	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	-2	2	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1052	1534	116	0	121
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	-	0	-	0	-	767
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	345
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	345
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		21		
HCM LOS	C					
Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1		
Capacity (veh/h)	-	-	-	345		
HCM Lane V/C Ratio	-	-	-	0.351		
HCM Control Delay (s)	-	-	-	21		
HCM Lane LOS	-	-	-	C		
HCM 95th %tile Q(veh)	-	-	-	1.5		

Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑	↗		↗
Traffic Vol, veh/h	0	1629	1219	126	0	149
Future Vol, veh/h	0	1629	1219	126	0	149
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	100	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	-2	2	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1810	1354	140	0	166
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	-	0	-	0	-	677
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	395
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	395
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		20.5		
HCM LOS	C					
Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1		
Capacity (veh/h)	-	-	-	395		
HCM Lane V/C Ratio	-	-	-	0.419		
HCM Control Delay (s)	-	-	-	20.5		
HCM Lane LOS	-	-	-	C		
HCM 95th %tile Q(veh)	-	-	-	2		

APPENDIX L

Capacity Calculations

Stevens Mill Road and Access B

Stevens Mill and Idlewild Crossing - Stallings, NC
8: Stevens Mill Road & Access B

2025 Build
Timing Plan: AM Peak Hour

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑	↑	↗
Traffic Vol, veh/h	0	80	0	504	584	70
Future Vol, veh/h	0	80	0	504	584	70
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	100
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	89	0	560	649	78
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	-	649	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.22	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.318	-	-	-	-
Pot Cap-1 Maneuver	0	470	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	470	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	14.4	0		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT EBLn1		SBT	SBR		
Capacity (veh/h)	- 470		-	-		
HCM Lane V/C Ratio	- 0.189		-	-		
HCM Control Delay (s)	- 14.4		-	-		
HCM Lane LOS	- B		-	-		
HCM 95th %tile Q(veh)	- 0.7		-	-		

Stevens Mill and Idlewild Crossing - Stallings, NC
8: Stevens Mill Road & Access B

2025 Build
Timing Plan: PM Peak Hour

Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑	↑	↗
Traffic Vol, veh/h	0	103	0	838	598	75
Future Vol, veh/h	0	103	0	838	598	75
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	100
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	114	0	931	664	83
Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	-	664	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.22	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.318	-	-	-	-
Pot Cap-1 Maneuver	0	461	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	461	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB	SB			
HCM Control Delay, s	15.4	0	0			
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR		
Capacity (veh/h)	-	461	-	-		
HCM Lane V/C Ratio	-	0.248	-	-		
HCM Control Delay (s)	-	15.4	-	-		
HCM Lane LOS	-	C	-	-		
HCM 95th %tile Q(veh)	-	1	-	-		

HCM 6th TWSC
8: Stevens Mill Road & Access B

2025 Build Improved
Timing Plan: AM Peak Hour

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↖	↖	↗
Traffic Vol, veh/h	0	80	0	504	584	70
Future Vol, veh/h	0	80	0	504	584	70
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	100
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	89	0	560	649	78
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	-	649	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.22	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.318	-	-	-	-
Pot Cap-1 Maneuver	0	470	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	470	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	14.4	0		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT EBLn1		SBT	SBR		
Capacity (veh/h)	- 470		-	-		
HCM Lane V/C Ratio	- 0.189		-	-		
HCM Control Delay (s)	- 14.4		-	-		
HCM Lane LOS	- B		-	-		
HCM 95th %tile Q(veh)	- 0.7		-	-		

HCM 6th TWSC
8: Stevens Mill Road & Access B

2025 Build - Improved
Timing Plan: PM Peak Hour

Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	103	0	838	598	75
Future Vol, veh/h	0	103	0	838	598	75
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	100
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	114	0	931	664	83
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	-	664	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.22	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.318	-	-	-	-
Pot Cap-1 Maneuver	0	461	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	461	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	15.4	0		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBT EBLn1		SBT	SBR		
Capacity (veh/h)	- 461		-	-		
HCM Lane V/C Ratio	- 0.248		-	-		
HCM Control Delay (s)	- 15.4		-	-		
HCM Lane LOS	- C		-	-		
HCM 95th %tile Q(veh)	- 1		-	-		

HCM 6th TWSC
8: Stevens Mill Road & Access B

2030 Build Improved
Timing Plan: AM Peak Hour

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↖	↖	↗
Traffic Vol, veh/h	0	80	0	532	617	70
Future Vol, veh/h	0	80	0	532	617	70
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	100
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	89	0	591	686	78
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	-	686	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.22	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.318	-	-	-	-
Pot Cap-1 Maneuver	0	447	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	447	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	15	0		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBT EBLn1		SBT	SBR		
Capacity (veh/h)	- 447		-	-		
HCM Lane V/C Ratio	- 0.199		-	-		
HCM Control Delay (s)	- 15		-	-		
HCM Lane LOS	- C		-	-		
HCM 95th %tile Q(veh)	- 0.7		-	-		

HCM 6th TWSC
8: Stevens Mill Road & Access B

2030 Build - Improved
Timing Plan: PM Peak Hour

Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↖	↖	↗
Traffic Vol, veh/h	0	103	0	874	630	75
Future Vol, veh/h	0	103	0	874	630	75
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	100
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	114	0	971	700	83
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	-	700	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.22	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.318	-	-	-	-
Pot Cap-1 Maneuver	0	439	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	439	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	16.1	0		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBT EBLn1		SBT	SBR		
Capacity (veh/h)	- 439		-	-		
HCM Lane V/C Ratio	- 0.261		-	-		
HCM Control Delay (s)	- 16.1		-	-		
HCM Lane LOS	- C		-	-		
HCM 95th %tile Q(veh)	- 1		-	-		

APPENDIX M

Capacity Calculations and Signal Warrants

Stevens Mill Road and Access C

Stevens Mill and Idlewild Crossing - Stallings, NC
9: Stevens Mill Road & Access C

2025 Build
Timing Plan: AM Peak Hour

Intersection						
Int Delay, s/veh	21.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	94	86	189	315	568	49
Future Vol, veh/h	94	86	189	315	568	49
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	350	-	-	100
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	104	96	210	350	631	54
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1401	631	685	0	-	0
Stage 1	631	-	-	-	-	-
Stage 2	770	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	154	481	908	-	-	-
Stage 1	530	-	-	-	-	-
Stage 2	457	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	118	481	908	-	-	-
Mov Cap-2 Maneuver	118	-	-	-	-	-
Stage 1	408	-	-	-	-	-
Stage 2	457	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	141.7	3.8		0		
HCM LOS	F					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	908	-	185	-	-	
HCM Lane V/C Ratio	0.231	-	1.081	-	-	
HCM Control Delay (s)	10.2	-	141.7	-	-	
HCM Lane LOS	B	-	F	-	-	
HCM 95th %tile Q(veh)	0.9	-	9.6	-	-	

Stevens Mill and Idlewild Crossing - Stallings, NC
9: Stevens Mill Road & Access C

2025 Build
Timing Plan: PM Peak Hour

Intersection						
Int Delay, s/veh	228.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	159	161	293	545	512	80
Future Vol, veh/h	159	161	293	545	512	80
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	350	-	-	100
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	177	179	326	606	569	89
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1827	569	658	0	-	0
Stage 1	569	-	-	-	-	-
Stage 2	1258	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	~ 84	522	930	-	-	-
Stage 1	566	-	-	-	-	-
Stage 2	268	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 55	522	930	-	-	-
Mov Cap-2 Maneuver	~ 55	-	-	-	-	-
Stage 1	367	-	-	-	-	-
Stage 2	268	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	1239.1	3.8		0		
HCM LOS	F					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	930	-	100	-	-	
HCM Lane V/C Ratio	0.35	-	3.556	-	-	
HCM Control Delay (s)	10.9	\$ 1239.1		-	-	
HCM Lane LOS	B	-	F	-	-	
HCM 95th %tile Q(veh)	1.6	-	35.7	-	-	
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

Lanes, Volumes, Timings
9: Stevens Mill Road & Access C

2025 Build Improved
Timing Plan: AM Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	94	86	189	315	568	49
Future Volume (vph)	94	86	189	315	568	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	350			100
Storage Lanes	1	1	1			1
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	1863	1863	1583
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1770	1583	1770	1863	1863	1583
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Link Speed (mph)	25			45	45	
Link Distance (ft)	1000			639	602	
Travel Time (s)	27.3			9.7	9.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	104	96	210	350	631	54
Shared Lane Traffic (%)						
Lane Group Flow (vph)	104	96	210	350	631	54
Turn Type	Prot	pm+ov	Prot	NA	NA	pm+ov
Protected Phases	4	5	5	2	6	4
Permitted Phases		4				6
Detector Phase	4	5	5	2	6	4
Switch Phase						
Minimum Initial (s)	7.0	7.0	7.0	12.0	12.0	7.0
Minimum Split (s)	14.0	14.0	14.0	19.0	19.0	14.0
Total Split (s)	20.0	30.0	30.0	100.0	70.0	20.0
Total Split (%)	16.7%	25.0%	25.0%	83.3%	58.3%	16.7%
Maximum Green (s)	13.0	23.0	23.0	93.0	63.0	13.0
Yellow Time (s)	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
Lost Time Adjust (s)	-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
Lead/Lag		Lead	Lead		Lag	
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	C-Max	C-Max	None
Act Effct Green (s)	13.3	39.0	20.7	96.7	71.0	89.3
Actuated g/C Ratio	0.11	0.32	0.17	0.81	0.59	0.74
v/c Ratio	0.53	0.19	0.69	0.23	0.57	0.05
Control Delay	60.3	28.4	32.1	7.6	18.9	4.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.3	28.4	32.1	7.6	18.9	4.9
LOS	E	C	C	A	B	A
Approach Delay	45.0			16.8	17.8	
Approach LOS	D			B	B	

Lanes, Volumes, Timings
9: Stevens Mill Road & Access C

2025 Build Improved
Timing Plan: AM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Queue Length 50th (ft)	76	52	110	113	296	10
Queue Length 95th (ft)	134	89	m167	m208	448	23
Internal Link Dist (ft)	920			559	522	
Turn Bay Length (ft)			350			100
Base Capacity (vph)	221	570	368	1501	1102	1200
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.17	0.57	0.23	0.57	0.04

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 108 (90%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.69

Intersection Signal Delay: 21.2

Intersection LOS: C

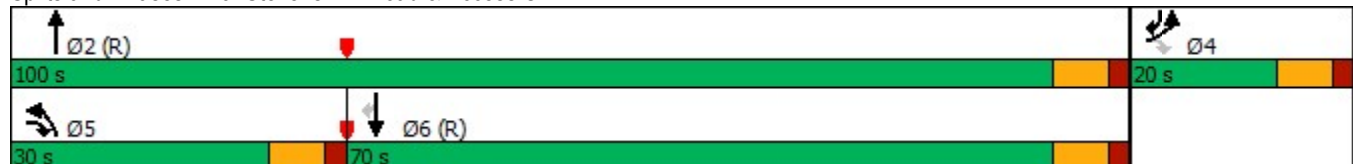
Intersection Capacity Utilization 58.7%

ICU Level of Service B

Analysis Period (min) 15

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

Splits and Phases: 9: Stevens Mill Road & Access C



Lanes, Volumes, Timings
9: Stevens Mill Road & Access C

2025 Build - Improved
Timing Plan: PM Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	159	161	293	545	512	80
Future Volume (vph)	159	161	293	545	512	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	350			100
Storage Lanes	1	1	1			1
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	1863	1863	1583
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1770	1583	1770	1863	1863	1583
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Link Speed (mph)	25			45	45	
Link Distance (ft)	1000			639	602	
Travel Time (s)	27.3			9.7	9.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	177	179	326	606	569	89
Shared Lane Traffic (%)						
Lane Group Flow (vph)	177	179	326	606	569	89
Turn Type	Prot	pm+ov	Prot	NA	NA	pm+ov
Protected Phases	4	5	5	2	6	4
Permitted Phases		4				6
Detector Phase	4	5	5	2	6	4
Switch Phase						
Minimum Initial (s)	7.0	7.0	7.0	12.0	12.0	7.0
Minimum Split (s)	14.0	14.0	14.0	19.0	19.0	14.0
Total Split (s)	28.0	44.0	44.0	112.0	68.0	28.0
Total Split (%)	20.0%	31.4%	31.4%	80.0%	48.6%	20.0%
Maximum Green (s)	21.0	37.0	37.0	105.0	61.0	21.0
Yellow Time (s)	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
Lost Time Adjust (s)	-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
Lead/Lag		Lead	Lead		Lag	
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	C-Max	C-Max	None
Act Effct Green (s)	20.0	57.4	32.4	110.0	72.6	97.6
Actuated g/C Ratio	0.14	0.41	0.23	0.79	0.52	0.70
v/c Ratio	0.70	0.28	0.80	0.41	0.59	0.08
Control Delay	71.8	27.1	48.1	5.8	28.4	8.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.8	27.1	48.1	5.8	28.4	8.0
LOS	E	C	D	A	C	A
Approach Delay	49.4			20.6	25.6	
Approach LOS	D			C	C	

Lanes, Volumes, Timings
9: Stevens Mill Road & Access C

2025 Build - Improved
Timing Plan: PM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Queue Length 50th (ft)	154	105	228	141	360	24
Queue Length 95th (ft)	234	146	m223	m227	542	50
Internal Link Dist (ft)	920			559	522	
Turn Bay Length (ft)			350			100
Base Capacity (vph)	290	724	493	1462	966	1137
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.61	0.25	0.66	0.41	0.59	0.08

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 107 (76%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 27.6

Intersection LOS: C

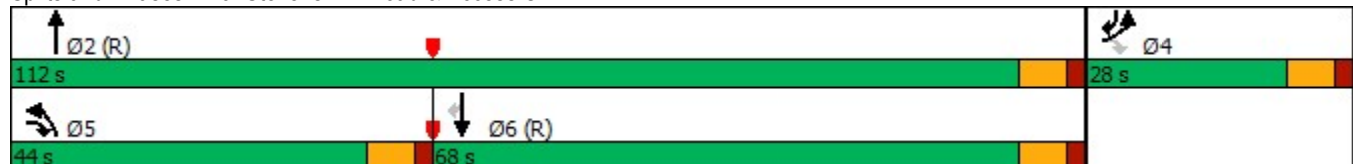
Intersection Capacity Utilization 64.5%

ICU Level of Service C

Analysis Period (min) 15

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

Splits and Phases: 9: Stevens Mill Road & Access C



Lanes, Volumes, Timings
9: Stevens Mill Road & Access C

2030 Build Improved
Timing Plan: AM Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	94	86	189	343	601	49
Future Volume (vph)	94	86	189	343	601	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	350			100
Storage Lanes	1	1	1			1
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	1863	1863	1583
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1770	1583	1770	1863	1863	1583
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Link Speed (mph)	25			45	45	
Link Distance (ft)	1000			639	602	
Travel Time (s)	27.3			9.7	9.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	104	96	210	381	668	54
Shared Lane Traffic (%)						
Lane Group Flow (vph)	104	96	210	381	668	54
Turn Type	Prot	pm+ov	Prot	NA	NA	pm+ov
Protected Phases	4	5	5	2	6	4
Permitted Phases		4				6
Detector Phase	4	5	5	2	6	4
Switch Phase						
Minimum Initial (s)	7.0	7.0	7.0	12.0	12.0	7.0
Minimum Split (s)	14.0	14.0	14.0	19.0	19.0	14.0
Total Split (s)	19.0	30.0	30.0	101.0	71.0	19.0
Total Split (%)	15.8%	25.0%	25.0%	84.2%	59.2%	15.8%
Maximum Green (s)	12.0	23.0	23.0	94.0	64.0	12.0
Yellow Time (s)	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
Lost Time Adjust (s)	-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
Lead/Lag		Lead	Lead		Lag	
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	C-Max	C-Max	None
Act Effct Green (s)	12.8	38.5	20.7	97.2	71.5	89.3
Actuated g/C Ratio	0.11	0.32	0.17	0.81	0.60	0.74
v/c Ratio	0.55	0.19	0.69	0.25	0.60	0.05
Control Delay	62.1	28.9	32.7	7.1	19.3	4.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.1	28.9	32.7	7.1	19.3	4.9
LOS	E	C	C	A	B	A
Approach Delay	46.2			16.2	18.2	
Approach LOS	D			B	B	

Lanes, Volumes, Timings
9: Stevens Mill Road & Access C

2030 Build Improved
Timing Plan: AM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Queue Length 50th (ft)	77	52	0	146	321	10
Queue Length 95th (ft)	136	90	m176	m241	479	23
Internal Link Dist (ft)	920			559	522	
Turn Bay Length (ft)			350			100
Base Capacity (vph)	206	564	368	1509	1109	1193
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.50	0.17	0.57	0.25	0.60	0.05

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 104 (87%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.69

Intersection Signal Delay: 21.1

Intersection LOS: C

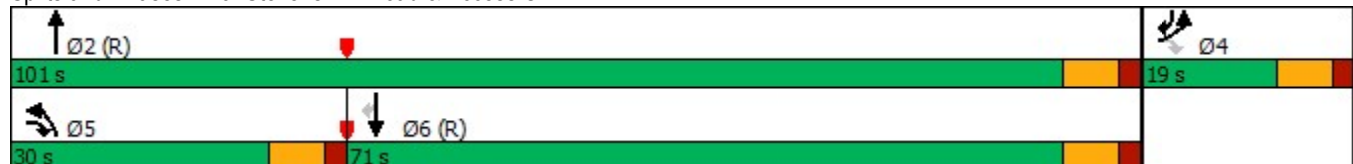
Intersection Capacity Utilization 60.4%

ICU Level of Service B

Analysis Period (min) 15

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

Splits and Phases: 9: Stevens Mill Road & Access C



Lanes, Volumes, Timings
9: Stevens Mill Road & Access C

2030 Build - Improved
Timing Plan: PM Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	159	161	293	581	544	80
Future Volume (vph)	159	161	293	581	544	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	350			100
Storage Lanes	1	1	1			1
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	1863	1863	1583
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1770	1583	1770	1863	1863	1583
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Link Speed (mph)	25			45	45	
Link Distance (ft)	1000			639	602	
Travel Time (s)	27.3			9.7	9.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	177	179	326	646	604	89
Shared Lane Traffic (%)						
Lane Group Flow (vph)	177	179	326	646	604	89
Turn Type	Prot	pm+ov	Prot	NA	NA	pm+ov
Protected Phases	4	5	5	2	6	4
Permitted Phases		4				6
Detector Phase	4	5	5	2	6	4
Switch Phase						
Minimum Initial (s)	7.0	7.0	7.0	12.0	12.0	7.0
Minimum Split (s)	14.0	14.0	14.0	19.0	19.0	14.0
Total Split (s)	24.0	37.0	37.0	96.0	59.0	24.0
Total Split (%)	20.0%	30.8%	30.8%	80.0%	49.2%	20.0%
Maximum Green (s)	17.0	30.0	30.0	89.0	52.0	17.0
Yellow Time (s)	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
Lost Time Adjust (s)	-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
Lead/Lag		Lead	Lead		Lag	
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	C-Max	C-Max	None
Act Effct Green (s)	17.3	50.3	28.0	92.7	59.7	82.0
Actuated g/C Ratio	0.14	0.42	0.23	0.77	0.50	0.68
v/c Ratio	0.69	0.27	0.79	0.45	0.65	0.08
Control Delay	63.2	22.8	45.3	5.1	28.1	7.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.2	22.8	45.3	5.1	28.1	7.4
LOS	E	C	D	A	C	A
Approach Delay	42.9			18.6	25.4	
Approach LOS	D			B	C	

Lanes, Volumes, Timings
9: Stevens Mill Road & Access C

2030 Build - Improved
Timing Plan: PM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Queue Length 50th (ft)	130	85	190	132	356	22
Queue Length 95th (ft)	208	131	m224	m176	515	44
Internal Link Dist (ft)	920			559	522	
Turn Bay Length (ft)			350			100
Base Capacity (vph)	280	716	472	1438	926	1103
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.63	0.25	0.69	0.45	0.65	0.08

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 5 (4%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.79

Intersection Signal Delay: 25.2

Intersection LOS: C

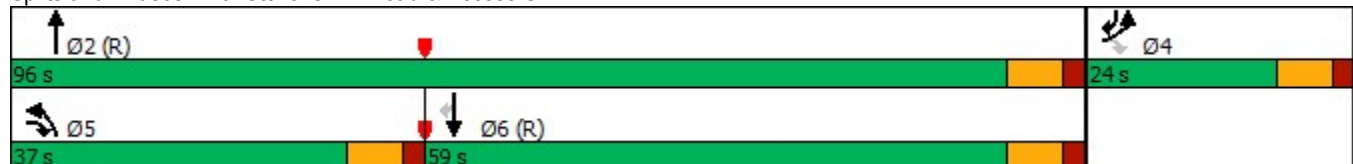
Intersection Capacity Utilization 66.2%

ICU Level of Service C

Analysis Period (min) 15

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

Splits and Phases: 9: Stevens Mill Road & Access C



Type of report: Tube Count - Volume Data

LOCATION: Stevens Mill Road N of Idlewild Rd							QC JOB #: 16219501			
SPECIFIC LOCATION:							DIRECTION: NB			
CITY/STATE: Matthews, NC							DATE: May 18 2023 - May 18 2023			
Start Time	Mon	Tue	Wed	Thu 18 May 23	Fri	Average Weekday 15-min Traffic	Sat	Sun	Average Week 15-min Traffic	Average Week Profile
12:00 AM				9		9			9	
12:15 AM				10		10			10	
12:30 AM				3		3			3	
12:45 AM				3		3			3	
01:00 AM				3		3			3	
01:15 AM				3		3			3	
01:30 AM				2		2			2	
01:45 AM				0		0			0	
02:00 AM				1		1			1	
02:15 AM				1		1			1	
02:30 AM				3		3			3	
02:45 AM				0		0			0	
03:00 AM				1		1			1	
03:15 AM				1		1			1	
03:30 AM				1		1			1	
03:45 AM				4		4			4	
04:00 AM				2		2			2	
04:15 AM				1		1			1	
04:30 AM				0		0			0	
04:45 AM				2		2			2	
05:00 AM				2		2			2	
05:15 AM				5		5			5	
05:30 AM				7		7			7	
05:45 AM				11		11			11	
Day Total										
% Weekday Average										
% Week Average										
AM Peak 15-min Vol										
PM Peak 15-min Vol										
Comments:										

Report generated on 5/23/2023 12:56 PM

SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>)

Type of report: Tube Count - Volume Data

LOCATION: Stevens Mill Road N of Idlewild Rd							QC JOB #: 16219501			
SPECIFIC LOCATION:							DIRECTION: NB			
CITY/STATE: Matthews, NC							DATE: May 18 2023 - May 18 2023			
Start Time	Mon	Tue	Wed	Thu 18 May 23	Fri	Average Weekday 15-min Traffic	Sat	Sun	Average Week 15-min Traffic	Average Week Profile
06:00 AM				14		14			14	
06:15 AM				31		31			31	
06:30 AM				31		31			31	
06:45 AM				29		29			29	
07:00 AM				58		58			58	
07:15 AM				73		73			73	
07:30 AM				92		92			92	
07:45 AM				58		58			58	
08:00 AM				77		77			77	
08:15 AM				80		80			80	
08:30 AM				48		48			48	
08:45 AM				59		59			59	
09:00 AM				74		74			74	
09:15 AM				76		76			76	
09:30 AM				77		77			77	
09:45 AM				60		60			60	
10:00 AM				62		62			62	
10:15 AM				63		63			63	
10:30 AM				85		85			85	
10:45 AM				96		96			96	
11:00 AM				69		69			69	
11:15 AM				80		80			80	
11:30 AM				77		77			77	
11:45 AM				82		82			82	
Day Total										
% Weekday Average										
% Week Average										
AM Peak 15-min Vol										
PM Peak 15-min Vol										
Comments:										

LOCATION: Stevens Mill Road N of Idlewild Rd							QC JOB #: 16219501			
SPECIFIC LOCATION:							DIRECTION: NB			
CITY/STATE: Matthews, NC							DATE: May 18 2023 - May 18 2023			
Start Time	Mon	Tue	Wed	Thu 18 May 23	Fri	Average Weekday 15-min Traffic	Sat	Sun	Average Week 15-min Traffic	Average Week Profile
12:00 PM				88		88			88	
12:15 PM				92		92			92	
12:30 PM				84		84			84	
12:45 PM				77		77			77	
01:00 PM				95		95			95	
01:15 PM				92		92			92	
01:30 PM				82		82			82	
01:45 PM				113		113			113	
02:00 PM				117		117			117	
02:15 PM				131		131			131	
02:30 PM				112		112			112	
02:45 PM				115		115			115	
03:00 PM				95		95			95	
03:15 PM				134		134			134	
03:30 PM				128		128			128	
03:45 PM				135		135			135	
04:00 PM				123		123			123	
04:15 PM				112		112			112	
04:30 PM				127		127			127	
04:45 PM				105		105			105	
05:00 PM				126		126			126	
05:15 PM				121		121			121	
05:30 PM				107		107			107	
05:45 PM				102		102			102	
Day Total										
% Weekday Average										
% Week Average										
AM Peak 15-min Vol										
PM Peak 15-min Vol										
Comments:										

LOCATION: Stevens Mill Road N of Idlewild Rd							QC JOB #: 16219501			
SPECIFIC LOCATION:							DIRECTION: NB			
CITY/STATE: Matthews, NC							DATE: May 18 2023 - May 18 2023			
Start Time	Mon	Tue	Wed	Thu 18 May 23	Fri	Average Weekday 15-min Traffic	Sat	Sun	Average Week 15-min Traffic	Average Week Profile
06:00 PM				107		107			107	
06:15 PM				100		100			100	
06:30 PM				122		122			122	
06:45 PM				103		103			103	
07:00 PM				103		103			103	
07:15 PM				100		100			100	
07:30 PM				88		88			88	
07:45 PM				88		88			88	
08:00 PM				75		75			75	
08:15 PM				83		83			83	
08:30 PM				69		69			69	
08:45 PM				62		62			62	
09:00 PM				58		58			58	
09:15 PM				49		49			49	
09:30 PM				47		47			47	
09:45 PM				23		23			23	
10:00 PM				29		29			29	
10:15 PM				24		24			24	
10:30 PM				29		29			29	
10:45 PM				14		14			14	
11:00 PM				10		10			10	
11:15 PM				11		11			11	
11:30 PM				13		13			13	
11:45 PM				9		9			9	
Day Total				5655		5655			5655	
% Weekday Average				100%						
% Week Average				100%		100%				
AM Peak 15-min Vol				10:45 AM 96		10:45 AM 96			10:45 AM 96	
PM Peak 15-min Vol				3:45 PM 135		3:45 PM 135			3:45 PM 135	
Comments:										

Type of report: Tube Count - Volume Data

LOCATION: Stevens Mill Road N of Idlewild Rd							QC JOB #: 16219501			
SPECIFIC LOCATION:							DIRECTION: SB			
CITY/STATE: Matthews, NC							DATE: May 18 2023 - May 18 2023			
Start Time	Mon	Tue	Wed	Thu 18 May 23	Fri	Average Weekday 15-min Traffic	Sat	Sun	Average Week 15-min Traffic	Average Week Profile
12:00 AM				4		4			4	
12:15 AM				4		4			4	
12:30 AM				4		4			4	
12:45 AM				4		4			4	
01:00 AM				1		1			1	
01:15 AM				3		3			3	
01:30 AM				3		3			3	
01:45 AM				0		0			0	
02:00 AM				0		0			0	
02:15 AM				1		1			1	
02:30 AM				3		3			3	
02:45 AM				0		0			0	
03:00 AM				0		0			0	
03:15 AM				0		0			0	
03:30 AM				1		1			1	
03:45 AM				2		2			2	
04:00 AM				3		3			3	
04:15 AM				10		10			10	
04:30 AM				7		7			7	
04:45 AM				13		13			13	
05:00 AM				8		8			8	
05:15 AM				12		12			12	
05:30 AM				28		28			28	
05:45 AM				37		37			37	
Day Total										
% Weekday Average										
% Week Average										
AM Peak 15-min Vol										
PM Peak 15-min Vol										
Comments:										

LOCATION: Stevens Mill Road N of Idlewild Rd							QC JOB #: 16219501			
SPECIFIC LOCATION:							DIRECTION: SB			
CITY/STATE: Matthews, NC							DATE: May 18 2023 - May 18 2023			
Start Time	Mon	Tue	Wed	Thu 18 May 23	Fri	Average Weekday 15-min Traffic	Sat	Sun	Average Week 15-min Traffic	Average Week Profile
06:00 AM				40		40			40	
06:15 AM				69		69			69	
06:30 AM				103		103			103	
06:45 AM				149		149			149	
07:00 AM				176		176			176	
07:15 AM				168		168			168	
07:30 AM				166		166			166	
07:45 AM				106		106			106	
08:00 AM				114		114			114	
08:15 AM				123		123			123	
08:30 AM				141		141			141	
08:45 AM				132		132			132	
09:00 AM				112		112			112	
09:15 AM				99		99			99	
09:30 AM				85		85			85	
09:45 AM				86		86			86	
10:00 AM				106		106			106	
10:15 AM				93		93			93	
10:30 AM				84		84			84	
10:45 AM				84		84			84	
11:00 AM				93		93			93	
11:15 AM				84		84			84	
11:30 AM				82		82			82	
11:45 AM				95		95			95	
Day Total										
% Weekday Average										
% Week Average										
AM Peak 15-min Vol										
PM Peak 15-min Vol										
Comments:										

LOCATION: Stevens Mill Road N of Idlewild Rd							QC JOB #: 16219501			
SPECIFIC LOCATION:							DIRECTION: SB			
CITY/STATE: Matthews, NC							DATE: May 18 2023 - May 18 2023			
Start Time	Mon	Tue	Wed	Thu 18 May 23	Fri	Average Weekday 15-min Traffic	Sat	Sun	Average Week 15-min Traffic	Average Week Profile
12:00 PM				88		88			88	
12:15 PM				110		110			110	
12:30 PM				101		101			101	
12:45 PM				114		114			114	
01:00 PM				97		97			97	
01:15 PM				103		103			103	
01:30 PM				105		105			105	
01:45 PM				95		95			95	
02:00 PM				101		101			101	
02:15 PM				106		106			106	
02:30 PM				108		108			108	
02:45 PM				128		128			128	
03:00 PM				109		109			109	
03:15 PM				100		100			100	
03:30 PM				109		109			109	
03:45 PM				98		98			98	
04:00 PM				99		99			99	
04:15 PM				130		130			130	
04:30 PM				95		95			95	
04:45 PM				97		97			97	
05:00 PM				126		126			126	
05:15 PM				141		141			141	
05:30 PM				132		132			132	
05:45 PM				122		122			122	
Day Total										
% Weekday Average										
% Week Average										
AM Peak 15-min Vol										
PM Peak 15-min Vol										
Comments:										

LOCATION: Stevens Mill Road N of Idlewild Rd							QC JOB #: 16219501			
SPECIFIC LOCATION:							DIRECTION: SB			
CITY/STATE: Matthews, NC							DATE: May 18 2023 - May 18 2023			
Start Time	Mon	Tue	Wed	Thu 18 May 23	Fri	Average Weekday 15-min Traffic	Sat	Sun	Average Week 15-min Traffic	Average Week Profile
06:00 PM				111		111			111	
06:15 PM				107		107			107	
06:30 PM				87		87			87	
06:45 PM				111		111			111	
07:00 PM				79		79			79	
07:15 PM				67		67			67	
07:30 PM				62		62			62	
07:45 PM				60		60			60	
08:00 PM				59		59			59	
08:15 PM				42		42			42	
08:30 PM				47		47			47	
08:45 PM				44		44			44	
09:00 PM				42		42			42	
09:15 PM				22		22			22	
09:30 PM				21		21			21	
09:45 PM				23		23			23	
10:00 PM				23		23			23	
10:15 PM				15		15			15	
10:30 PM				5		5			5	
10:45 PM				9		9			9	
11:00 PM				11		11			11	
11:15 PM				7		7			7	
11:30 PM				6		6			6	
11:45 PM				7		7			7	
Day Total				6419		6419			6419	
% Weekday Average				100%						
% Week Average				100%		100%				
AM Peak 15-min Vol				7:00 AM 176		7:00 AM 176			7:00 AM 176	
PM Peak 15-min Vol				5:15 PM 141		5:15 PM 141			5:15 PM 141	
Comments:										

Hourly Distribution of Entering and Exiting Vehicle Trips by Land Use

Source: ITE Trip Generation Manual , 11th Edition

Land Use Code	820			820		
Land Use	Shopping Center (>150k)			Shopping Center (>150k)		
Setting	General Urban/Suburban			General Urban/Suburban		
Time Period	Weekday			Saturday		
# Data Sites	24			1		
	% of 24-Hour Vehicle Trips			% of 24-Hour Vehicle Trips		
Time	Total	Entering	Exiting	Total	Entering	Exiting
12:00 - 1:00 AM	0.1%	0.0%	0.1%	0.4%	0.1%	0.8%
1:00 - 2:00 AM	0.0%	0.0%	0.0%	0.3%	0.0%	0.5%
2:00 - 3:00 AM	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
3:00 - 4:00 AM	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
4:00 - 5:00 AM	0.1%	0.1%	0.0%	0.0%	0.1%	0.0%
5:00 - 6:00 AM	0.1%	0.1%	0.1%	0.1%	0.2%	0.0%
6:00 - 7:00 AM	0.7%	0.9%	0.5%	0.2%	0.3%	0.1%
7:00 - 8:00 AM	1.6%	1.9%	1.2%	0.5%	0.8%	0.2%
8:00 - 9:00 AM	2.4%	2.9%	1.8%	1.1%	1.6%	0.6%
9:00 - 10:00 AM	4.0%	4.9%	3.2%	2.7%	4.1%	1.2%
10:00 - 11:00 AM	6.1%	7.0%	5.3%	5.4%	8.0%	2.8%
11:00 - 12:00 PM	7.9%	8.5%	7.3%	7.7%	9.7%	5.7%
12:00 - 1:00 PM	9.2%	9.6%	8.9%	8.8%	10.3%	7.4%
1:00 - 2:00 PM	8.8%	8.7%	9.0%	9.8%	10.4%	9.3%
2:00 - 3:00 PM	8.2%	7.8%	8.6%	9.9%	10.2%	9.6%
3:00 - 4:00 PM	8.3%	8.1%	8.5%	9.7%	9.3%	10.2%
4:00 - 5:00 PM	8.7%	8.6%	8.7%	9.6%	8.8%	10.5%
5:00 - 6:00 PM	8.8%	8.7%	8.9%	9.0%	8.4%	9.6%
6:00 - 7:00 PM	7.7%	7.7%	7.8%	7.9%	6.9%	8.9%
7:00 - 8:00 PM	6.8%	6.5%	7.0%	6.5%	5.6%	7.4%
8:00 - 9:00 PM	5.3%	4.3%	6.3%	4.7%	2.9%	6.3%
9:00 - 10:00 PM	3.3%	1.9%	4.6%	3.2%	1.3%	5.1%
10:00 - 11:00 PM	1.0%	0.8%	1.2%	1.8%	0.9%	2.7%
11:00 - 12:00 AM	0.5%	0.3%	0.7%	0.7%	0.3%	1.1%

Land Use Code	850		
Land Use	Supermarket		
Setting	General Urban/Suburban		
Time Period	Weekday		
# Data Sites	3		
	% of 24-Hour Vehicle Trips		
Time	Total	Entering	Exiting
12:00 - 1:00 AM	0.1%	0.0%	0.2%
1:00 - 2:00 AM	0.0%	0.0%	0.0%
2:00 - 3:00 AM	0.0%	0.0%	0.0%
3:00 - 4:00 AM	0.0%	0.0%	0.0%
4:00 - 5:00 AM	0.2%	0.2%	0.1%
5:00 - 6:00 AM	0.3%	0.5%	0.1%
6:00 - 7:00 AM	0.3%	0.6%	0.0%
7:00 - 8:00 AM	1.5%	1.5%	1.4%
8:00 - 9:00 AM	3.8%	4.3%	3.3%
9:00 - 10:00 AM	4.7%	5.1%	4.4%
10:00 - 11:00 AM	5.9%	6.4%	5.4%
11:00 - 12:00 PM	7.4%	7.4%	7.3%
12:00 - 1:00 PM	9.6%	9.3%	9.9%
1:00 - 2:00 PM	8.1%	8.7%	7.5%
2:00 - 3:00 PM	9.0%	8.8%	9.2%
3:00 - 4:00 PM	8.7%	8.9%	8.5%
4:00 - 5:00 PM	9.7%	9.8%	9.7%
5:00 - 6:00 PM	9.5%	9.5%	9.5%
6:00 - 7:00 PM	8.5%	7.8%	9.3%
7:00 - 8:00 PM	6.1%	5.6%	6.6%
8:00 - 9:00 PM	4.0%	3.8%	4.2%
9:00 - 10:00 PM	2.3%	1.9%	2.8%
10:00 - 11:00 PM	0.2%	0.0%	0.4%
11:00 - 12:00 AM	0.1%	0.0%	0.2%

Land Use Code	934		
Land Use	Fast-Food Restaurant with Drive-Through Window		
Setting	General Urban/Suburban		
Time Period	Weekday		
# Data Sites	53		
	% of 24-Hour Vehicle Trips		
Time	Total	Entering	Exiting
12:00 - 1:00 AM	0.8%	0.8%	0.8%
1:00 - 2:00 AM	0.4%	0.4%	0.5%
2:00 - 3:00 AM	0.3%	0.3%	0.3%
3:00 - 4:00 AM	0.3%	0.2%	0.3%
4:00 - 5:00 AM	0.3%	0.3%	0.3%
5:00 - 6:00 AM	0.7%	0.8%	0.7%
6:00 - 7:00 AM	2.1%	2.3%	1.9%
7:00 - 8:00 AM	3.3%	3.4%	3.1%
8:00 - 9:00 AM	3.5%	3.5%	3.4%
9:00 - 10:00 AM	3.3%	3.4%	3.3%
10:00 - 11:00 AM	3.8%	4.0%	3.7%
11:00 - 12:00 PM	8.4%	9.1%	7.7%
12:00 - 1:00 PM	11.9%	11.9%	12.0%
1:00 - 2:00 PM	8.3%	7.9%	8.7%
2:00 - 3:00 PM	6.2%	5.9%	6.5%
3:00 - 4:00 PM	5.7%	5.7%	5.7%
4:00 - 5:00 PM	5.7%	5.9%	5.6%
5:00 - 6:00 PM	6.7%	6.9%	6.5%
6:00 - 7:00 PM	7.4%	7.4%	7.4%
7:00 - 8:00 PM	6.5%	6.3%	6.6%
8:00 - 9:00 PM	5.7%	5.6%	5.8%
9:00 - 10:00 PM	4.4%	4.1%	4.6%
10:00 - 11:00 PM	2.7%	2.5%	2.9%
11:00 - 12:00 AM	1.6%	1.4%	1.8%

Hourly Distribution of Entering and Exiting Vehicle Trips by Land Use

Source: ITE *Trip Generation Manual*, 11th Edition

Land Use Code	945		
Land Use	Convenience Store/Gas Station		
Subcategory	GFA (2-4k)		
Setting	General Urban/Suburban		
Time Period	Weekday		
# Data Sites	38		
	% of 24-Hour Vehicle Trips		
Time	Total	Entering	Exiting
12:00 - 1:00 AM	0.9%	0.9%	0.9%
1:00 - 2:00 AM	0.5%	0.5%	0.5%
2:00 - 3:00 AM	0.5%	0.4%	0.5%
3:00 - 4:00 AM	0.5%	0.5%	0.6%
4:00 - 5:00 AM	1.0%	1.0%	1.1%
5:00 - 6:00 AM	2.3%	2.3%	2.2%
6:00 - 7:00 AM	4.6%	4.7%	4.5%
7:00 - 8:00 AM	6.2%	6.2%	6.1%
8:00 - 9:00 AM	5.9%	5.8%	5.9%
9:00 - 10:00 AM	5.0%	5.0%	5.1%
10:00 - 11:00 AM	5.2%	5.2%	5.2%
11:00 - 12:00 PM	5.3%	5.3%	5.2%
12:00 - 1:00 PM	5.8%	5.8%	5.8%
1:00 - 2:00 PM	5.4%	5.4%	5.3%
2:00 - 3:00 PM	5.9%	6.1%	5.8%
3:00 - 4:00 PM	6.5%	6.5%	6.4%
4:00 - 5:00 PM	7.1%	7.2%	7.1%
5:00 - 6:00 PM	6.9%	7.0%	6.9%
6:00 - 7:00 PM	6.5%	6.5%	6.6%
7:00 - 8:00 PM	5.3%	5.3%	5.3%
8:00 - 9:00 PM	4.4%	4.3%	4.5%
9:00 - 10:00 PM	3.7%	3.7%	3.7%
10:00 - 11:00 PM	2.8%	2.7%	2.8%
11:00 - 12:00 AM	1.9%	1.8%	1.9%

Traffic Signal Warrant Analysis

Project Name	Stevens Mill and Idlewild Crossing
Project/File #	21699
Scenario	2025 Build

Intersection Information	
Major Street Name	Stevens Mill Road
North/South or East/West	N/S
Speed Limit	45 mph or greater
# of Approach Lanes	1
% of Right Turn Traffic to Include	0%
Minor Street Name	Access C
# of Approach Lanes	1
% of Right Turn Traffic to Include	0%
Isolated Community < 10,000 pop	No

What Additional Warrants to Consider?	
Warrant 3, Peak Hour (A - Vol. and Delay)	Yes
Warrant 4, Pedestrian Volume	No
Warrant 5, School Crossing	No
Warrant 6, Coordinated Signal System	No
Warrant 7, Crash Experience	No
Warrant 8, Roadway Network	No
Warrant 9, Intersection Near a Grade Crossing	No
All-Way Stop Warrant	No

Spack Academy is part of the Spack Enterprise family of companies



Traffic Signal Warrant Analysis

Stevens Mill Road (Major Street) Volume

Northbound Volume by Hour				
Time	Left Turns	Through	Right Turns	Peds/Bikes
12 - 1 AM				
1 - 2 AM				
2 - 3 AM				
3 - 4 AM				
4 - 5 AM				
5 - 6 AM				
6 - 7 AM		105		
7 - 8 AM		281		
8 - 9 AM		264		
9 - 10 AM		287		
10 - 11 AM		306		
11 - 12 PM		308		
12 - 1 PM		341		
1 - 2 PM		382		
2 - 3 PM		475		
3 - 4 PM		492		
4 - 5 PM		467		
5 - 6 PM		456		
6 - 7 PM		432		
7 - 8 PM				
8 - 9 PM				
9 - 10 PM				
10 - 11 PM				
11 - 12 AM				
Total Vehicles (unadjusted)			4,596	0

Southbound Volume by Hour				
Time	Left Turns	Through	Right Turns	Peds/Bikes
12 - 1 AM				
1 - 2 AM				
2 - 3 AM				
3 - 4 AM				
4 - 5 AM				
5 - 6 AM				
6 - 7 AM		361		
7 - 8 AM		616		
8 - 9 AM		510		
9 - 10 AM		382		
10 - 11 AM		367		
11 - 12 PM		354		
12 - 1 PM		413		
1 - 2 PM		400		
2 - 3 PM		443		
3 - 4 PM		416		
4 - 5 PM		421		
5 - 6 PM		521		
6 - 7 PM		416		
7 - 8 PM				
8 - 9 PM				
9 - 10 PM				
10 - 11 PM				
11 - 12 AM				
Total Vehicles (unadjusted)			5,620	0

Access C (Minor Street) Volume

Eastbound Volume by Hour				
Time	Left Turns	Through	Right Turns	Peds/Bikes
12 - 1 AM				
1 - 2 AM				
2 - 3 AM				
3 - 4 AM				
4 - 5 AM				
5 - 6 AM				
6 - 7 AM	52			
7 - 8 AM	83			
8 - 9 AM	97			
9 - 10 AM	101			
10 - 11 AM	117			
11 - 12 PM	149			
12 - 1 PM	192			
1 - 2 PM	161			
2 - 3 PM	168			
3 - 4 PM	168			
4 - 5 PM	181			
5 - 6 PM	183			
6 - 7 PM	177			
7 - 8 PM				
8 - 9 PM				
9 - 10 PM				
10 - 11 PM				
11 - 12 AM				
Total Vehicles (unadjusted)			1,829	0

Westbound Volume by Hour				
Time	Left Turns	Through	Right Turns	Peds/Bikes
12 - 1 AM				
1 - 2 AM				
2 - 3 AM				
3 - 4 AM				
4 - 5 AM				
5 - 6 AM				
6 - 7 AM				
7 - 8 AM				
8 - 9 AM				
9 - 10 AM				
10 - 11 AM				
11 - 12 PM				
12 - 1 PM				
1 - 2 PM				
2 - 3 PM				
3 - 4 PM				
4 - 5 PM				
5 - 6 PM				
6 - 7 PM				
7 - 8 PM				
8 - 9 PM				
9 - 10 PM				
10 - 11 PM				
11 - 12 AM				
Total Vehicles (unadjusted)			0	0

Traffic Signal Warrant Analysis

Additional Inputs for Warrants 3 to 9 and the Multi-Way Stop Warrants

Warrant 3: Peak Hour Delay Additional Information	
T-intersection or 4-legged?	T
Peak Hour Reviewed?	PM
Stevens Mill Road (Major Street) Data	
Combined Approach Volume	977
Access C (Minor Street) Data	
High Volume Side Volume	183
High Volume Side Average Delay (Sec.)	
High Volume Side # of Approach Lanes	1
Low Volume Side Volume (leave blank if T)	0

Warrant 4: Pedestrian Volume Additional Information	
Include Right Turn Reduction for Vehicular Volume?	Yes
300 feet or more to nearest traffic control signal or STOP sign controlling the street that pedestrians desire to cross?	Yes
If no, will a traffic control signal restrict the progressive movement of traffic?*	N/A
15th-percentile crossing speed of pedestrians less than 3.5 feet per second?*	No
If yes, then percent reduction to apply to crossing volume? (up to 50%)	N/A

* Include supporting documentation of no progressive movement impact.

** Not common. Include supporting documentation of low crossing speed.

Warrant 6: Coordinated Signal System	
One-way or Two-way Street?	Two-Way
Adjacent traffic control signals do not provide the necessary degree of platooning, but will collectively provide a progressive operation with the proposed traffic control signal?	No
Resultant spacing of traffic control signals 1,000 feet or more?	Yes

Warrant 7: Crash Experience	
Number of reportable crashes (<u>types susceptible to correction by a traffic control signal</u>) within a 12-month period?*	5 or more
Adequate trial of alternatives with satisfactory observance and enforcement failed to reduce crash frequency?*	No
Include Right Turn Reduction for Vehicular Volume?	Yes

* May need to include supporting documentation of crash details.

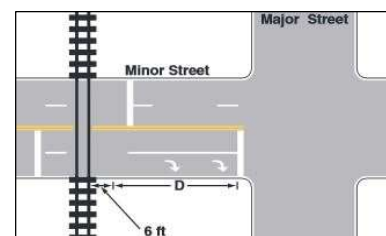
** May need to include supporting documentation of alternative trail(s) and results.

Warrant 9: Intersection Near a Grade Crossing	
Tracks cross which Access C approach?	Southbound
Consideration given to other alternatives/trial of alternative failed to alleviate the safety concerns?*	Yes
Distance between STOP or YIELD controlled approach and center of track nearest to the intersection within 140 feet?	Yes
Clear storage distance (Distance D) between the tracks and the intersection? (See Below)	70 feet
Number of approach lanes at the crossing?	2 or more
Rail traffic per day?	3-5
Percentage of high-occupancy buses?*	0%
Percentage of Tractor-Trailer Trucks?	7.6%-12.5%

* Alternatives to consider or try should include:

- Providing additional pavement that would enable vehicles to clear the track or provide space for an evasive maneuver.
- Reassigning the stop controls at the intersection to make the approach across the track non-stopping.

** High-occupancy is defined as a bus occupied by at least 20 people.



Warrant 5: School Crossing	
Schoolchildren (elementary through high school) crossing the major street (Stevens)	No
Consideration given to other remedial measures (warning signs/flashers, school speed zones, school crossing guards, or a grade-separated crossing)?	No
300 feet or more to nearest traffic control signal or STOP sign controlling the street that pedestrians desire to cross?	No
If no, will a traffic control signal restrict the progressive movement of traffic?*	No
Minimum of 20 schoolchildren crossing during the highest crossing hour?	No
Engineering Study completed showing the number of adequate gaps in the traffic stream during the period when schoolchildren are using the crossing is less than the number of minutes in the same period?*	No

* Include supporting documentation of no progressive movement impact.

** May need to include supporting documentation of inadequate gaps in traffic.

Warrant 8: Roadway Network	
Common intersection of two major routes?*	Yes
Projected entering volume of at least 1,000 vehicles per hour during the peak hour of a typical weekday?	Yes
5-Year projected traffic volumes meet one or more of Warrants 1, 2, and 3 during an average weekday?	Yes
Total existing or immediately projected entering volume of at least 1,000 vehicles per hour for each of any 5 hours of a non-normal business day (Saturday or Sunday)?	No

* Major Route defined as:

- Part of the street or highway system that serves as the principal roadway network for through traffic flow.
- Rural or suburban highways outside, entering, or traversing a city.
- Appears as a major route on an official plan, such as a major street plan in an urban area traffic and transportation study.

Multi-Way Stop Warrant Additional Information	
Traffic control signal warranted & justified with existing traffic?	Yes
Number of <u>correctable</u> crashes* in 12-month period?	4
Peak Hour high volume approach average delay (Sec.)	0

* Crashes include right-turn and left-turn collisions as well as right-angle collisions.

Traffic Signal Warrant Analysis

Warrants 1 - 3 (Volume Warrants)

Project Name	Stevens Mill and Idlewild Crossing
Project/File #	21699
Scenario	2025 Build

Intersection Information			
Major Street (N/S Road)	Stevens Mill Road	Minor Street (E/W Road)	Access C
Analyzed with	1 approach lane	Analyzed with	1 Approach Lane
Total Approach Volume	10216 vehicles	Total Approach Volume	1829 vehicles
Total Ped/Bike Volume	0 crossings	Total Ped/Bike Volume	0 crossings
Right turn reduction of	100 percent applied	Right turn reduction of	100 percent applied

No high speed or isolated community reduction applied to the Volume Warrant thresholds.

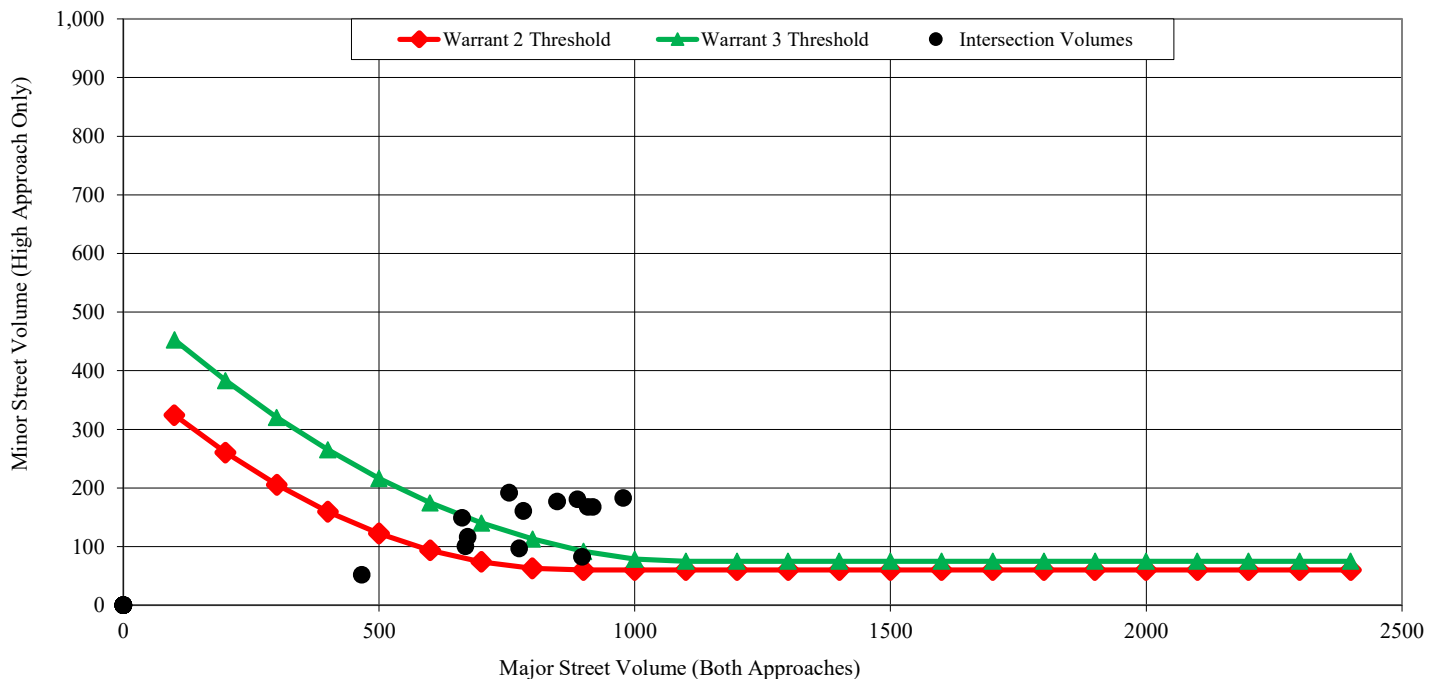
Warrant 1, Eight Hour Vehicular Volume			
	Condition A	Condition B	Condition A+B*
Condition Satisfied?	Satisfied	Satisfied	Satisfied
Required values reached for	9 hours	12 hours	11 (Cond. A) & 13 (Cond. B)
Criteria - Major Street (veh/hr)	350	525	280 (Cond. A) & 420 (Cond. B)
Criteria - Minor Street (veh/hr)	105	53	84 (Cond. A) & 42 (Cond. B)

* Should be applied only after an adequate trial of other alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems.

Warrant 2, Four Hour Vehicular Volume	
Condition Satisfied?	Satisfied
Required values reached for	12 hours
Criteria	See Figure Below

Warrant 3, Peak Hour Vehicular Volume		
	Condition A	Condition B
Condition Satisfied?	Not Satisfied	Satisfied
Required values reached for	1160 total, 183 minor, 0 delay	7 hours
Criteria - Total Approach Volume (veh in one hour)	650	See Figure Below
Criteria - Minor Street High Side Volume (veh in one hour)	100	
Criteria - Minor Street High Side Delay (veh-hrs)	4	

Figure 4C-2 (Warrant 2 - 70% Factor) & Figure 4C-4 (Warrant 3 - 70% Factor)



APPENDIX N

SimTraffic Reports

Queuing and Blocking Report
Stevens Mill and Idlewild Crossing - Stallings, NC

2022 Existing
AM Peak Hour

Intersection: 1: Stallings Road & Idlewild Road

Movement	EB	WB	NB
Directions Served	TR	L	LR
Maximum Queue (ft)	36	154	322
Average Queue (ft)	3	68	111
95th Queue (ft)	18	121	264
Link Distance (ft)	1267	745	1531
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 2: I-485 Inner On Ramp/I-485 Inner Off Ramp & Idlewild Road

Movement	EB	EB	EB	WB	WB	WB	SB	SB
Directions Served	T	T	R	L	T	T	LT	R
Maximum Queue (ft)	162	168	170	278	166	204	178	386
Average Queue (ft)	82	50	72	146	63	73	73	204
95th Queue (ft)	148	123	142	243	131	149	139	327
Link Distance (ft)	745	745			827	827	1239	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)			100	275				375
Storage Blk Time (%)		1	4	0				0
Queuing Penalty (veh)		2	7	1				0

Intersection: 3: I-485 Outer Off Ramp/I-485 Outer On Ramp & Idlewild Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	T	T	R	LT	R	R
Maximum Queue (ft)	172	83	62	123	115	93	135	117	51
Average Queue (ft)	84	27	13	43	26	27	64	46	9
95th Queue (ft)	148	71	45	102	74	72	115	92	35
Link Distance (ft)		827	827	512	512			968	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	275					125	200		850
Storage Blk Time (%)					0	0			
Queuing Penalty (veh)					0	0			

Queuing and Blocking Report
Stevens Mill and Idlewild Crossing - Stallings, NC

2022 Existing
AM Peak Hour

Intersection: 4: Boyd Funderburk Drive/Marshall Hooks Road & Idlewild Road

Movement	EB	WB	NB	SB
Directions Served	L	L	LTR	LTR
Maximum Queue (ft)	25	20	31	39
Average Queue (ft)	2	1	9	10
95th Queue (ft)	12	8	28	34
Link Distance (ft)			1032	1084
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	350	100		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: Rite Aid Driveway & Idlewild Road

Movement	EB	EB	WB	WB	NB
Directions Served	T	R	L	T	LR
Maximum Queue (ft)	88	5	52	146	77
Average Queue (ft)	26	0	11	55	27
95th Queue (ft)	71	3	37	128	60
Link Distance (ft)	308	308		2051	956
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)			150		
Storage Blk Time (%)				0	
Queuing Penalty (veh)				0	

Intersection: 6: Stevens Mill Road & Idlewild Road

Movement	EB	EB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	T	R
Maximum Queue (ft)	136	268	250	832	375	698	176	295	246
Average Queue (ft)	30	92	60	420	91	319	71	102	104
95th Queue (ft)	88	207	206	732	275	576	143	222	204
Link Distance (ft)		2051		1445		1385		1657	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	250		150		275		135		150
Storage Blk Time (%)		1		35		29	3	5	3
Queuing Penalty (veh)		0		23		16	9	14	6

Network Summary

Network wide Queuing Penalty: 79

Intersection: 1: Stallings Road & Idlewild Road

Movement	EB	WB	NB
Directions Served	TR	L	LR
Maximum Queue (ft)	31	120	529
Average Queue (ft)	2	52	195
95th Queue (ft)	14	96	446
Link Distance (ft)	1267	745	1531
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 2: I-485 Inner On Ramp/I-485 Inner Off Ramp & Idlewild Road

Movement	EB	EB	EB	WB	WB	WB	SB	SB
Directions Served	T	T	R	L	T	T	LT	R
Maximum Queue (ft)	226	189	127	161	137	142	289	244
Average Queue (ft)	99	68	39	71	31	54	130	115
95th Queue (ft)	184	153	93	130	86	120	225	195
Link Distance (ft)	745	745			827	827	1239	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)			100	275				375
Storage Blk Time (%)		2	1					
Queuing Penalty (veh)		3	2					

Intersection: 3: I-485 Outer Off Ramp/I-485 Outer On Ramp & Idlewild Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	T	T	R	LT	R	R
Maximum Queue (ft)	192	162	131	123	131	143	205	224	204
Average Queue (ft)	85	74	42	45	45	31	106	132	84
95th Queue (ft)	151	146	98	102	109	98	180	202	179
Link Distance (ft)		827	827	512	512			968	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	275					125	200		850
Storage Blk Time (%)					0	0	1	1	
Queuing Penalty (veh)					1	1	2	2	

Intersection: 4: Boyd Funderburk Drive/Marshall Hooks Road & Idlewild Road

Movement	EB	EB	WB	NB	SB
Directions Served	L	T	L	LTR	LTR
Maximum Queue (ft)	21	15	21	44	47
Average Queue (ft)	2	1	2	10	10
95th Queue (ft)	12	11	14	33	35
Link Distance (ft)		512		1032	1084
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	350		100		
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 5: Rite Aid Driveway & Idlewild Road

Movement	EB	EB	B112	B112	WB	WB	NB
Directions Served	T	R	T	T	L	T	LR
Maximum Queue (ft)	405	132	455	308	202	314	343
Average Queue (ft)	296	11	96	25	82	118	160
95th Queue (ft)	468	76	338	194	154	240	277
Link Distance (ft)	308	308	612	612		2051	956
Upstream Blk Time (%)	17	0	0	0			
Queuing Penalty (veh)	92	1	1	0			
Storage Bay Dist (ft)					150		
Storage Blk Time (%)					2	3	
Queuing Penalty (veh)					10	4	

Intersection: 6: Stevens Mill Road & Idlewild Road

Movement	EB	EB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	T	R
Maximum Queue (ft)	350	1129	250	828	374	584	190	290	210
Average Queue (ft)	210	468	57	427	103	312	75	77	75
95th Queue (ft)	389	1014	177	740	301	527	150	187	163
Link Distance (ft)		2051		1445		1385		1657	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	250		150		275		135		150
Storage Blk Time (%)	6	20	0	39		31	3	2	2
Queuing Penalty (veh)	50	48	0	20		21	7	5	3

Network Summary

Network wide Queuing Penalty: 271

Stevens Mill and Idlewild Crossing - Stallings, NC
Queuing and Blocking Report

2025 No-Build
AM Peak Hour

Intersection: 1: Stallings Road/Hooks Road & Idlewild Road

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	L	T	T	R	L	L	TR	LT	R	LTR
Maximum Queue (ft)	31	202	251	210	234	256	113	118	231	100
Average Queue (ft)	4	103	143	60	136	158	67	38	112	46
95th Queue (ft)	20	181	231	139	206	222	95	86	190	90
Link Distance (ft)			1248			964	964	1522		2072
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	275	275		200	250				250	
Storage Blk Time (%)			2		0	1		0	0	
Queuing Penalty (veh)			12		0	2		0	0	

Intersection: 2: I-485 Inner On Ramp/I-485 Inner Off Ramp & Idlewild Road

Movement	EB	EB	EB	WB	WB	WB	SB	SB	SB
Directions Served	T	T	R	L	T	T	LT	R	R
Maximum Queue (ft)	311	366	200	465	378	177	331	292	274
Average Queue (ft)	140	139	111	258	87	57	206	178	178
95th Queue (ft)	245	266	204	423	276	147	321	255	256
Link Distance (ft)	964	964			827	827	1237		
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)			100	275				400	400
Storage Blk Time (%)		16	21	9	0		1		
Queuing Penalty (veh)		43	72	38	0		3		

Intersection: 3: I-485 Outer Off Ramp/I-485 Outer On Ramp & Idlewild Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	T	T	R	LT	R	R
Maximum Queue (ft)	360	202	123	300	250	253	250	186	167
Average Queue (ft)	165	26	19	186	136	141	117	116	75
95th Queue (ft)	292	119	81	283	223	232	208	183	151
Link Distance (ft)		827	827	509	509			967	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	275					300	900		225
Storage Blk Time (%)	4	0			0	0			
Queuing Penalty (veh)	14	0			0	2			

Intersection: 4: Boyd Funderburk Drive/Marshall Hooks Road & Idlewild Road

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	R	L	TR	R	R
Maximum Queue (ft)	78	17	69	4	67	79
Average Queue (ft)	22	1	26	0	21	35
95th Queue (ft)	58	9	59	3	48	62
Link Distance (ft)				962	1014	1079
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	150	100	125			
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 5: Rite Aid Driveway/Stinson Farms Site Drive & Idlewild Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	L	T	TR	L	T	T	R	L	TR	L	L
Maximum Queue (ft)	138	160	102	105	169	342	350	86	264	172	176	197
Average Queue (ft)	75	91	33	44	46	233	232	38	135	82	92	118
95th Queue (ft)	128	145	78	92	113	325	324	77	221	147	161	174
Link Distance (ft)			962	962		2022	2022		953			
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	325	325			300			400		500	250	250
Storage Blk Time (%)					0	1	0					0
Queuing Penalty (veh)					0	1	0					0

Intersection: 5: Rite Aid Driveway/Stinson Farms Site Drive & Idlewild Road

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	85	296
Average Queue (ft)	25	140
95th Queue (ft)	64	240
Link Distance (ft)	1073	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		250
Storage Blk Time (%)		1
Queuing Penalty (veh)		4

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Intersection: 6: Stevens Mill Road & Idlewild Road

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	TR	L	T	R	L	T	R
Maximum Queue (ft)	229	480	155	348	333	232	203	129	184	273	315
Average Queue (ft)	111	251	53	229	204	123	86	48	67	100	165
95th Queue (ft)	192	439	116	328	312	207	159	100	134	202	272
Link Distance (ft)	2022	2022		1441			1379			1638	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)			250		500	500		500	250		275
Storage Blk Time (%)			0	4						0	1
Queuing Penalty (veh)			0	24						1	3

Network Summary

Network wide Queuing Penalty: 218

Intersection: 1: Stallings Road/Hooks Road & Idlewild Road

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	L	T	T	R	L	L	TR	LT	R	LTR
Maximum Queue (ft)	21	330	394	271	196	219	186	167	266	139
Average Queue (ft)	2	161	205	59	110	132	70	63	149	60
95th Queue (ft)	14	266	318	167	177	196	147	133	241	117
Link Distance (ft)			1248			964	964	1522		2072
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	275	275		200	250				250	
Storage Blk Time (%)		0	8		0	0			1	
Queuing Penalty (veh)		1	46		0	0			0	

Intersection: 2: I-485 Inner On Ramp/I-485 Inner Off Ramp & Idlewild Road

Movement	EB	EB	EB	WB	WB	WB	SB	SB	SB
Directions Served	T	T	R	L	T	T	LT	R	R
Maximum Queue (ft)	434	453	200	435	370	200	470	218	218
Average Queue (ft)	247	258	130	227	83	54	273	85	107
95th Queue (ft)	384	399	251	373	248	154	422	171	173
Link Distance (ft)	964	964			827	827	1237		
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)			100	275				400	400
Storage Blk Time (%)		39	12	9	0		2		
Queuing Penalty (veh)		88	64	40	0		4		

Intersection: 3: I-485 Outer Off Ramp/I-485 Outer On Ramp & Idlewild Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	T	T	R	LT	R	R
Maximum Queue (ft)	415	371	382	264	249	272	362	322	301
Average Queue (ft)	198	183	200	153	138	106	201	218	183
95th Queue (ft)	334	309	317	237	227	206	315	300	275
Link Distance (ft)		827	827	509	509			967	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	275					300	900		225
Storage Blk Time (%)	3	1			0	0		9	2
Queuing Penalty (veh)	15	4			0	1		47	9

Intersection: 4: Boyd Funderburk Drive/Marshall Hooks Road & Idlewild Road

Movement	EB	EB	EB	WB	WB	NB	SB
Directions Served	L	T	R	L	T	R	R
Maximum Queue (ft)	70	4	24	117	53	77	79
Average Queue (ft)	26	0	1	43	2	29	26
95th Queue (ft)	58	3	11	92	32	59	56
Link Distance (ft)		509			962	1014	1079
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	150		100	125			
Storage Blk Time (%)				0	0		
Queuing Penalty (veh)				1	0		

Intersection: 5: Rite Aid Driveway/Stinson Farms Site Drive & Idlewild Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	L	T	TR	L	T	T	R	L	TR	L	L
Maximum Queue (ft)	156	172	297	330	282	329	338	118	398	352	197	218
Average Queue (ft)	84	104	163	199	131	196	212	51	205	185	104	123
95th Queue (ft)	142	157	265	310	232	298	312	103	331	313	175	188
Link Distance (ft)			962	962		2022	2022		953			
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	325	325			300			400		500	250	250
Storage Blk Time (%)			0		1	0			0	0		0
Queuing Penalty (veh)			0		2	1			0	0		0

Intersection: 5: Rite Aid Driveway/Stinson Farms Site Drive & Idlewild Road

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	64	204
Average Queue (ft)	17	96
95th Queue (ft)	48	179
Link Distance (ft)	1073	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		250
Storage Blk Time (%)		
Queuing Penalty (veh)		

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Intersection: 6: Stevens Mill Road & Idlewild Road

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	TR	L	T	R	L	T	R
Maximum Queue (ft)	1632	1817	128	358	344	458	478	253	273	522	349
Average Queue (ft)	597	879	58	216	205	317	177	80	133	248	185
95th Queue (ft)	1400	1829	112	320	311	591	489	196	304	720	342
Link Distance (ft)	2022	2022		1441			1379			1638	
Upstream Blk Time (%)	0	1									
Queuing Penalty (veh)	0	6									
Storage Bay Dist (ft)			250		500	500		500	250		275
Storage Blk Time (%)				4		14	0		6	24	2
Queuing Penalty (veh)				23		29	1		22	85	3

Network Summary

Network wide Queuing Penalty: 494

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Intersection: 1: Stallings Road/Hooks Road & Idlewild Road

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	L	T	T	R	L	L	TR	LT	R	LTR
Maximum Queue (ft)	31	218	275	168	243	252	97	97	231	104
Average Queue (ft)	3	119	163	57	134	156	64	34	117	51
95th Queue (ft)	17	201	242	128	206	221	94	78	197	96
Link Distance (ft)			1248			964	964	1522		2072
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	275	275		200	250				250	
Storage Blk Time (%)		0	2	0	0	0			0	
Queuing Penalty (veh)		0	13	0	0	1			0	

Intersection: 2: I-485 Inner On Ramp/I-485 Inner Off Ramp & Idlewild Road

Movement	EB	EB	EB	WB	WB	WB	SB	SB	SB
Directions Served	T	T	R	L	T	T	LT	R	R
Maximum Queue (ft)	290	310	200	523	573	279	355	289	299
Average Queue (ft)	156	160	118	295	108	62	216	167	178
95th Queue (ft)	252	270	214	467	345	178	328	248	256
Link Distance (ft)	964	964			827	827	1237		
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)			100	275				400	400
Storage Blk Time (%)		25	24	15	0		0	0	0
Queuing Penalty (veh)		67	88	63	0		1	0	0

Intersection: 3: I-485 Outer Off Ramp/I-485 Outer On Ramp & Idlewild Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	T	T	R	LT	R	R
Maximum Queue (ft)	293	241	166	354	304	320	229	223	179
Average Queue (ft)	151	28	17	219	157	151	117	132	89
95th Queue (ft)	254	131	84	327	247	256	213	197	163
Link Distance (ft)		827	827	509	509			967	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	275					300	900		225
Storage Blk Time (%)	0	0			0	0		0	
Queuing Penalty (veh)	2	0			1	2		1	

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Intersection: 4: Boyd Funderburk Drive/Marshall Hooks Road & Idlewild Road

Movement	EB	EB	WB	NB	SB
Directions Served	L	R	L	R	R
Maximum Queue (ft)	86	19	75	68	110
Average Queue (ft)	26	1	24	23	37
95th Queue (ft)	61	10	58	48	77
Link Distance (ft)				1014	1079
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	150	100	125		
Storage Blk Time (%)	0				
Queuing Penalty (veh)	0				

Intersection: 5: Rite Aid Driveway/Stinson Farms Site Drive & Idlewild Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	L	T	TR	L	T	T	R	L	TR	L	L
Maximum Queue (ft)	141	150	102	131	162	371	375	103	250	208	184	200
Average Queue (ft)	75	90	42	52	48	280	276	41	135	83	92	109
95th Queue (ft)	128	138	95	105	112	366	366	82	217	159	158	173
Link Distance (ft)			962	962		1492	1492		953			
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	325	325			300			400		500	250	250
Storage Blk Time (%)					0	4	0					0
Queuing Penalty (veh)					0	3	0					0

Intersection: 5: Rite Aid Driveway/Stinson Farms Site Drive & Idlewild Road

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	90	250
Average Queue (ft)	27	124
95th Queue (ft)	67	220
Link Distance (ft)	1074	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		250
Storage Blk Time (%)		1
Queuing Penalty (veh)		3

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Intersection: 6: Stevens Mill Road & Idlewild Road

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	TR	L	T	R	L	T	R
Maximum Queue (ft)	424	464	174	351	342	298	221	122	272	310	301
Average Queue (ft)	262	261	51	248	242	154	112	46	160	179	170
95th Queue (ft)	476	422	116	332	326	261	192	98	293	326	297
Link Distance (ft)	473	473		1442			1385			356	
Upstream Blk Time (%)	7	0							1	3	0
Queuing Penalty (veh)	30	2							0	21	0
Storage Bay Dist (ft)			250		500	500		500	250		275
Storage Blk Time (%)				7					9	7	1
Queuing Penalty (veh)				39					46	32	4

Intersection: 7: Idlewild Road & Access A

Movement	EB	EB	SB
Directions Served	T	T	R
Maximum Queue (ft)	53	82	106
Average Queue (ft)	15	7	41
95th Queue (ft)	81	56	80
Link Distance (ft)	1492	1492	976
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 8: Stevens Mill Road & Access B

Movement	EB	SB	SB
Directions Served	R	T	R
Maximum Queue (ft)	116	118	40
Average Queue (ft)	38	22	5
95th Queue (ft)	111	171	58
Link Distance (ft)	1042	589	
Upstream Blk Time (%)		0	
Queuing Penalty (veh)		2	
Storage Bay Dist (ft)			100
Storage Blk Time (%)		3	
Queuing Penalty (veh)		2	

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Intersection: 9: Stevens Mill Road & Access C

Movement	EB	NB	SB	SB
Directions Served	LR	L	T	R
Maximum Queue (ft)	236	130	65	40
Average Queue (ft)	81	53	3	2
95th Queue (ft)	173	95	48	29
Link Distance (ft)	950		566	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		350		100
Storage Blk Time (%)			0	
Queuing Penalty (veh)			0	

Network Summary

Network wide Queuing Penalty: 423

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Intersection: 1: Stallings Road/Hooks Road & Idlewild Road

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	L	T	T	R	L	L	TR	LT	R	LTR
Maximum Queue (ft)	26	296	337	296	212	237	246	188	285	118
Average Queue (ft)	4	172	213	54	111	133	91	62	144	56
95th Queue (ft)	19	269	312	156	175	200	192	128	249	111
Link Distance (ft)			1248			964	964	1522		2072
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	275	275		200	250				250	
Storage Blk Time (%)		0	10		0	0		0	1	
Queuing Penalty (veh)		2	67		0	0		1	1	

Intersection: 2: I-485 Inner On Ramp/I-485 Inner Off Ramp & Idlewild Road

Movement	EB	EB	EB	WB	WB	WB	SB	SB	SB
Directions Served	T	T	R	L	T	T	LT	R	R
Maximum Queue (ft)	474	479	200	351	321	233	538	271	202
Average Queue (ft)	303	311	148	212	77	64	305	87	114
95th Queue (ft)	441	458	260	333	231	177	473	196	179
Link Distance (ft)	964	964			827	827	1237		
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)			100	275				400	400
Storage Blk Time (%)		47	11	5	0		5	0	
Queuing Penalty (veh)		104	64	24	0		13	0	

Intersection: 3: I-485 Outer Off Ramp/I-485 Outer On Ramp & Idlewild Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	T	T	R	LT	R	R
Maximum Queue (ft)	397	440	433	273	265	242	318	433	321
Average Queue (ft)	214	215	234	149	133	111	191	228	195
95th Queue (ft)	343	380	386	244	230	213	292	340	289
Link Distance (ft)		827	827	509	509			967	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	275					300	900		225
Storage Blk Time (%)	4	3			0	0		11	3
Queuing Penalty (veh)	24	10			0	0		58	16

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Intersection: 4: Boyd Funderburk Drive/Marshall Hooks Road & Idlewild Road

Movement	EB	EB	EB	EB	WB	WB	WB	NB	SB
Directions Served	L	T	T	R	L	T	TR	R	R
Maximum Queue (ft)	100	106	110	64	107	89	4	148	76
Average Queue (ft)	35	42	43	17	45	6	0	46	28
95th Queue (ft)	125	271	273	102	91	52	3	144	57
Link Distance (ft)		509	509			962	962	1014	1079
Upstream Blk Time (%)		1	1						
Queuing Penalty (veh)		5	7						
Storage Bay Dist (ft)	150			100	125				
Storage Blk Time (%)		3	4		0	0			
Queuing Penalty (veh)		2	6		0	0			

Intersection: 5: Rite Aid Driveway/Stinson Farms Site Drive & Idlewild Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	L	T	TR	L	T	T	R	L	TR	L	L
Maximum Queue (ft)	182	253	464	620	222	260	276	97	472	375	219	258
Average Queue (ft)	94	141	268	290	115	150	160	34	217	206	122	144
95th Queue (ft)	158	328	653	679	195	240	247	84	419	374	261	300
Link Distance (ft)			962	962		1492	1492		953			
Upstream Blk Time (%)			2	2								
Queuing Penalty (veh)			17	18								
Storage Bay Dist (ft)	325	325			300			400		500	250	250
Storage Blk Time (%)			6						1	2	8	10
Queuing Penalty (veh)			15						2	6	13	16

Intersection: 5: Rite Aid Driveway/Stinson Farms Site Drive & Idlewild Road

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	147	220
Average Queue (ft)	21	97
95th Queue (ft)	86	177
Link Distance (ft)	1074	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		250
Storage Blk Time (%)		0
Queuing Penalty (veh)		1

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Intersection: 6: Stevens Mill Road & Idlewild Road

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	TR	L	T	R	L	T	R
Maximum Queue (ft)	493	490	258	412	419	600	1419	599	350	423	356
Average Queue (ft)	461	334	59	268	274	552	985	110	342	387	224
95th Queue (ft)	548	584	145	374	378	699	1778	349	360	419	498
Link Distance (ft)	473	473		1442			1385			356	
Upstream Blk Time (%)	40	7					31		22	75	1
Queuing Penalty (veh)	305	57					0		0	528	0
Storage Bay Dist (ft)			250		500	500		500	250		275
Storage Blk Time (%)				10		74	4		98	34	
Queuing Penalty (veh)				63		185	13		472	174	

Intersection: 7: Idlewild Road & Access A

Movement	EB	EB	SB
Directions Served	T	T	R
Maximum Queue (ft)	1156	1187	115
Average Queue (ft)	531	524	47
95th Queue (ft)	1380	1430	91
Link Distance (ft)	1492	1492	976
Upstream Blk Time (%)	2	3	
Queuing Penalty (veh)	14	21	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 8: Stevens Mill Road & Access B

Movement	EB	SB	SB
Directions Served	R	T	R
Maximum Queue (ft)	1056	605	200
Average Queue (ft)	912	590	93
95th Queue (ft)	1305	637	257
Link Distance (ft)	1042	589	
Upstream Blk Time (%)	62	61	
Queuing Penalty (veh)	0	414	
Storage Bay Dist (ft)			100
Storage Blk Time (%)		84	
Queuing Penalty (veh)		63	

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Intersection: 9: Stevens Mill Road & Access C

Movement	EB	NB	NB	SB	SB
Directions Served	LR	L	T	T	R
Maximum Queue (ft)	982	222	38	615	200
Average Queue (ft)	925	88	1	544	128
95th Queue (ft)	1149	185	27	764	285
Link Distance (ft)	950		589	566	
Upstream Blk Time (%)	90			78	
Queuing Penalty (veh)	0			0	
Storage Bay Dist (ft)		350			100
Storage Blk Time (%)				81	
Queuing Penalty (veh)				65	

Network Summary

Network wide Queuing Penalty: 2866

Intersection: 1: Stallings Road/Hooks Road & Idlewild Road

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	L	T	T	R	L	L	TR	LT	R	LTR
Maximum Queue (ft)	27	270	339	164	284	287	90	94	222	140
Average Queue (ft)	3	121	158	65	139	169	57	31	115	56
95th Queue (ft)	17	226	268	131	211	232	78	77	190	109
Link Distance (ft)			1248			964	964	1522		2072
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	275	275		200	250				250	
Storage Blk Time (%)		0	4		0	1				
Queuing Penalty (veh)		0	23		0	1				

Intersection: 2: I-485 Inner On Ramp/I-485 Inner Off Ramp & Idlewild Road

Movement	EB	EB	EB	WB	WB	WB	SB	SB	SB
Directions Served	T	T	R	L	T	T	LT	R	R
Maximum Queue (ft)	401	424	200	524	624	155	366	356	347
Average Queue (ft)	171	172	131	323	82	57	254	175	192
95th Queue (ft)	314	322	222	498	309	144	356	266	290
Link Distance (ft)	964	964			827	827	1237		
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)			100	275				400	400
Storage Blk Time (%)		28	19	23	0				
Queuing Penalty (veh)		77	71	98	0				

Intersection: 3: I-485 Outer Off Ramp/I-485 Outer On Ramp & Idlewild Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	T	T	R	LT	R	R
Maximum Queue (ft)	307	307	176	355	274	293	195	225	212
Average Queue (ft)	168	29	17	205	158	147	110	143	97
95th Queue (ft)	289	142	83	308	258	250	180	207	181
Link Distance (ft)		827	827	509	509			967	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	275					300	900		225
Storage Blk Time (%)	1	0				0		0	0
Queuing Penalty (veh)	3	0				0		0	0

Intersection: 4: Boyd Funderburk Drive/Marshall Hooks Road & Idlewild Road

Movement	EB	EB	WB	NB	SB
Directions Served	L	R	L	R	R
Maximum Queue (ft)	135	26	73	71	74
Average Queue (ft)	38	2	27	21	38
95th Queue (ft)	82	14	60	50	65
Link Distance (ft)				1014	1079
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	150	100	125		
Storage Blk Time (%)	0				
Queuing Penalty (veh)	0				

Intersection: 5: Rite Aid Driveway/Stinson Farms Site Drive & Idlewild Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	L	T	TR	L	T	T	R	L	TR	L	L
Maximum Queue (ft)	177	218	111	110	88	284	289	120	260	178	156	192
Average Queue (ft)	91	109	52	60	43	195	211	47	135	80	102	107
95th Queue (ft)	151	170	106	103	86	260	275	91	222	152	162	173
Link Distance (ft)			962	962		1492	1492		953			
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	325	325			300			400		500	250	250
Storage Blk Time (%)							0					
Queuing Penalty (veh)							0					

Intersection: 5: Rite Aid Driveway/Stinson Farms Site Drive & Idlewild Road

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	85	258
Average Queue (ft)	20	125
95th Queue (ft)	57	218
Link Distance (ft)	1074	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		250
Storage Blk Time (%)		0
Queuing Penalty (veh)		1

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Intersection: 6: Stevens Mill Road & Idlewild Road

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	T	TR	L	T	T	R	L	L	T	R	L
Maximum Queue (ft)	377	243	189	349	386	382	74	190	224	250	176	110
Average Queue (ft)	206	104	124	72	232	222	28	120	148	111	62	51
95th Queue (ft)	330	172	187	167	333	336	69	199	214	182	126	97
Link Distance (ft)		466	466		1432					1373		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	500			250		500	500	250	250		300	300
Storage Blk Time (%)					7					0		
Queuing Penalty (veh)					42					0		

Intersection: 6: Stevens Mill Road & Idlewild Road

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (ft)	126	303	282
Average Queue (ft)	72	124	143
95th Queue (ft)	113	215	244
Link Distance (ft)		343	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	300		300
Storage Blk Time (%)		0	0
Queuing Penalty (veh)		1	0

Intersection: 7: Idlewild Road & Access A

Movement	WB	SB
Directions Served	T	R
Maximum Queue (ft)	49	92
Average Queue (ft)	2	43
95th Queue (ft)	16	77
Link Distance (ft)	466	976
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 8: Stevens Mill Road & Access B

Movement	EB	SB
Directions Served	R	T
Maximum Queue (ft)	86	51
Average Queue (ft)	30	2
95th Queue (ft)	59	17
Link Distance (ft)	1036	578
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 9: Stevens Mill Road & Access C

Movement	EB	EB	NB	NB	SB	SB
Directions Served	L	R	L	T	T	R
Maximum Queue (ft)	134	126	228	200	367	55
Average Queue (ft)	65	46	124	71	156	10
95th Queue (ft)	119	95	195	148	294	36
Link Distance (ft)	951	951		578	566	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			350			100
Storage Blk Time (%)					14	
Queuing Penalty (veh)					7	

Network Summary

Network wide Queuing Penalty: 326

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Intersection: 1: Stallings Road/Hooks Road & Idlewild Road

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	L	T	T	R	L	L	TR	LT	R	LTR
Maximum Queue (ft)	27	310	373	300	250	263	204	259	298	175
Average Queue (ft)	3	188	224	55	100	126	57	64	165	62
95th Queue (ft)	18	273	312	145	176	195	154	150	264	134
Link Distance (ft)			1248			964	964	1522		2072
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	275	275		200	250				250	
Storage Blk Time (%)		1	8		0	0		0	2	
Queuing Penalty (veh)		6	51		0	0		1	2	

Intersection: 2: I-485 Inner On Ramp/I-485 Inner Off Ramp & Idlewild Road

Movement	EB	EB	EB	WB	WB	WB	SB	SB	SB
Directions Served	T	T	R	L	T	T	LT	R	R
Maximum Queue (ft)	517	526	200	414	435	269	487	166	194
Average Queue (ft)	339	324	142	232	56	69	314	73	90
95th Queue (ft)	480	486	238	382	221	181	439	133	160
Link Distance (ft)	964	964			827	827	1237		
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)			100	275				400	400
Storage Blk Time (%)		46	18	6			3		
Queuing Penalty (veh)		102	104	30			9		

Intersection: 3: I-485 Outer Off Ramp/I-485 Outer On Ramp & Idlewild Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	T	T	R	LT	R	R
Maximum Queue (ft)	372	440	451	355	376	297	369	403	325
Average Queue (ft)	215	183	185	212	184	144	202	248	199
95th Queue (ft)	329	336	327	323	279	250	304	336	275
Link Distance (ft)		827	827	509	509			967	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	275					300	900		225
Storage Blk Time (%)	4	2			1	0		13	2
Queuing Penalty (veh)	27	5			3	2		69	12

Intersection: 4: Boyd Funderburk Drive/Marshall Hooks Road & Idlewild Road

Movement	EB	WB	WB	WB	NB	SB
Directions Served	L	L	T	TR	R	R
Maximum Queue (ft)	71	149	176	137	71	74
Average Queue (ft)	34	50	15	5	30	28
95th Queue (ft)	69	110	92	46	61	63
Link Distance (ft)			962	962	1014	1079
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	150	125				
Storage Blk Time (%)		1	0			
Queuing Penalty (veh)		6	0			

Intersection: 5: Rite Aid Driveway/Stinson Farms Site Drive & Idlewild Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	L	T	TR	L	T	T	R	L	TR	L	L
Maximum Queue (ft)	176	183	329	314	252	280	296	74	419	261	193	218
Average Queue (ft)	105	122	198	206	154	149	171	31	205	163	97	109
95th Queue (ft)	167	180	314	312	253	240	260	68	324	243	162	176
Link Distance (ft)			962	962		1492	1492		953			
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	325	325			300			400		500	250	250
Storage Blk Time (%)			0			0						
Queuing Penalty (veh)			0			0						

Intersection: 5: Rite Aid Driveway/Stinson Farms Site Drive & Idlewild Road

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	86	262
Average Queue (ft)	18	119
95th Queue (ft)	59	218
Link Distance (ft)	1074	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		250
Storage Blk Time (%)		0
Queuing Penalty (veh)		1

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Intersection: 6: Stevens Mill Road & Idlewild Road

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	T	TR	L	T	T	R	L	L	T	R	L
Maximum Queue (ft)	460	495	446	134	392	338	180	192	227	268	118	198
Average Queue (ft)	365	215	144	51	238	219	83	110	141	148	59	99
95th Queue (ft)	496	483	278	95	332	295	145	177	210	230	111	166
Link Distance (ft)		466	466		1432					1373		
Upstream Blk Time (%)	1	2										
Queuing Penalty (veh)	0	18										
Storage Bay Dist (ft)	500			250		500	500	250	250		300	300
Storage Blk Time (%)	1	2			6					1		
Queuing Penalty (veh)	3	12			37					3		

Intersection: 6: Stevens Mill Road & Idlewild Road

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (ft)	209	376	291
Average Queue (ft)	110	171	145
95th Queue (ft)	174	276	249
Link Distance (ft)		343	
Upstream Blk Time (%)		0	
Queuing Penalty (veh)		2	
Storage Bay Dist (ft)	300		300
Storage Blk Time (%)		0	0
Queuing Penalty (veh)		2	0

Intersection: 7: Idlewild Road & Access A

Movement	EB	EB	SB
Directions Served	T	T	R
Maximum Queue (ft)	181	183	129
Average Queue (ft)	14	6	50
95th Queue (ft)	76	60	93
Link Distance (ft)	1492	1492	976
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 8: Stevens Mill Road & Access B

Movement	EB	SB
Directions Served	R	T
Maximum Queue (ft)	86	75
Average Queue (ft)	35	2
95th Queue (ft)	63	25
Link Distance (ft)	1036	578
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 9: Stevens Mill Road & Access C

Movement	EB	EB	NB	NB	SB	SB
Directions Served	L	R	L	T	T	R
Maximum Queue (ft)	234	253	359	354	398	200
Average Queue (ft)	137	98	193	66	209	44
95th Queue (ft)	223	176	290	172	362	160
Link Distance (ft)	951	951		578	566	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			350			100
Storage Blk Time (%)			1	0	24	
Queuing Penalty (veh)			4	0	19	

Network Summary

Network wide Queuing Penalty: 528

Intersection: 1: Stallings Road/Hooks Road & Idlewild Road

Movement	EB	EB	WB	WB	NB	NB	SB
Directions Served	LT	TR	LT	TR	LT	R	LTR
Maximum Queue (ft)	134	56	250	199	74	90	56
Average Queue (ft)	64	10	92	7	15	40	27
95th Queue (ft)	107	40	177	65	47	68	56
Link Distance (ft)		1197	924	924	1495		2023
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	275					250	
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 2: I-485 Inner On Ramp/I-485 Inner Off Ramp & Idlewild Road

Movement	EB	EB	EB	WB	WB	WB	SB	SB	SB
Directions Served	T	T	R	L	T	T	LT	R	R
Maximum Queue (ft)	353	388	200	508	328	179	373	286	250
Average Queue (ft)	237	221	166	263	70	31	222	211	168
95th Queue (ft)	360	362	240	412	225	111	329	277	248
Link Distance (ft)	924	924			827	827	1237		
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)			100	275				400	400
Storage Blk Time (%)		29	23	13	0				
Queuing Penalty (veh)		80	84	58	1				

Intersection: 3: I-485 Outer Off Ramp/I-485 Outer On Ramp & Idlewild Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	T	T	R	LT	R	R
Maximum Queue (ft)	524	628	178	305	332	310	245	220	207
Average Queue (ft)	229	76	22	171	131	128	109	135	93
95th Queue (ft)	420	353	101	270	240	232	175	215	183
Link Distance (ft)		827	827	509	509			967	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	275					300	900		225
Storage Blk Time (%)	11				0	0		0	0
Queuing Penalty (veh)	42				1	3		0	0

Intersection: 4: Boyd Funderburk Drive/Marshall Hooks Road & Idlewild Road

Movement	EB	EB	EB	WB	NB	SB
Directions Served	L	T	R	L	R	R
Maximum Queue (ft)	114	19	22	91	48	73
Average Queue (ft)	32	1	2	30	19	32
95th Queue (ft)	68	6	13	67	44	58
Link Distance (ft)		509			1014	1079
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	150		100	125		
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 5: Rite Aid Driveway/Stinson Farms Site Drive & Idlewild Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	L	T	TR	L	T	T	R	L	TR	L	L
Maximum Queue (ft)	140	212	111	98	66	238	275	52	240	150	218	214
Average Queue (ft)	83	102	48	45	31	170	177	30	130	70	103	116
95th Queue (ft)	133	156	95	91	63	223	253	55	207	127	173	181
Link Distance (ft)			962	962		1492	1492		953			
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	325	325			300			400		500	250	250
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 5: Rite Aid Driveway/Stinson Farms Site Drive & Idlewild Road

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	87	253
Average Queue (ft)	30	132
95th Queue (ft)	67	217
Link Distance (ft)	1074	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		250
Storage Blk Time (%)		0
Queuing Penalty (veh)		1

Intersection: 6: Stevens Mill Road & Idlewild Road

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	T	TR	L	T	T	R	L	L	T	R	L
Maximum Queue (ft)	353	176	165	134	291	326	115	162	204	206	94	154
Average Queue (ft)	198	89	115	58	216	208	33	86	119	107	59	43
95th Queue (ft)	313	158	170	116	292	302	82	155	179	161	88	93
Link Distance (ft)		466	466		1432					1373		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	500			250		500	500	250	250		300	300
Storage Blk Time (%)					3							
Queuing Penalty (veh)					21							

Intersection: 6: Stevens Mill Road & Idlewild Road

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (ft)	170	253	248
Average Queue (ft)	60	119	131
95th Queue (ft)	111	201	223
Link Distance (ft)		343	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	300		300
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 7: Idlewild Road & Access A

Movement	SB
Directions Served	R
Maximum Queue (ft)	88
Average Queue (ft)	40
95th Queue (ft)	73
Link Distance (ft)	976
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 8: Stevens Mill Road & Access B

Movement	EB
Directions Served	R
Maximum Queue (ft)	78
Average Queue (ft)	29
95th Queue (ft)	58
Link Distance (ft)	1036
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 9: Stevens Mill Road & Access C

Movement	EB	EB	NB	NB	SB	SB
Directions Served	L	R	L	T	T	R
Maximum Queue (ft)	132	123	216	119	318	200
Average Queue (ft)	68	39	125	49	154	14
95th Queue (ft)	118	84	198	110	276	76
Link Distance (ft)	951	951		578	566	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			350			100
Storage Blk Time (%)					15	
Queuing Penalty (veh)					7	

Network Summary

Network wide Queuing Penalty: 298

Intersection: 1: Stallings Road/Hooks Road & Idlewild Road

Movement	EB	EB	WB	WB	NB	NB	SB
Directions Served	LT	TR	LT	TR	LT	R	LTR
Maximum Queue (ft)	136	52	237	142	73	106	97
Average Queue (ft)	69	11	81	22	39	54	32
95th Queue (ft)	119	39	168	96	72	89	65
Link Distance (ft)		1197	924	924	1495		2023
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	275					250	
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 2: I-485 Inner On Ramp/I-485 Inner Off Ramp & Idlewild Road

Movement	EB	EB	EB	WB	WB	WB	SB	SB	SB
Directions Served	T	T	R	L	T	T	LT	R	R
Maximum Queue (ft)	406	414	200	454	355	162	420	158	133
Average Queue (ft)	329	310	141	252	119	77	256	118	54
95th Queue (ft)	403	422	255	439	287	141	377	159	119
Link Distance (ft)	924	924			827	827	1237		
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)			100	275				400	400
Storage Blk Time (%)		37	8	17	0		1		
Queuing Penalty (veh)		84	44	81	0		3		

Intersection: 3: I-485 Outer Off Ramp/I-485 Outer On Ramp & Idlewild Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	T	T	R	LT	R	R
Maximum Queue (ft)	390	328	390	291	222	282	446	331	315
Average Queue (ft)	221	105	43	159	141	116	218	223	183
95th Queue (ft)	323	266	173	240	215	222	366	311	272
Link Distance (ft)		827	827	509	509			967	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	275					300	900		225
Storage Blk Time (%)	5	0				0		8	1
Queuing Penalty (veh)	30	0				0		44	8

Intersection: 4: Boyd Funderburk Drive/Marshall Hooks Road & Idlewild Road

Movement	EB	EB	WB	NB	SB
Directions Served	L	R	L	R	R
Maximum Queue (ft)	93	22	98	67	53
Average Queue (ft)	26	1	43	25	23
95th Queue (ft)	59	7	83	53	46
Link Distance (ft)				1014	1079
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	150	100	125		
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 5: Rite Aid Driveway/Stinson Farms Site Drive & Idlewild Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	L	T	TR	L	T	T	R	L	TR	L	L
Maximum Queue (ft)	159	174	301	319	192	190	240	74	329	241	235	196
Average Queue (ft)	96	110	178	177	117	117	133	37	195	141	112	118
95th Queue (ft)	140	155	274	282	176	177	203	64	303	224	207	198
Link Distance (ft)			962	962		1492	1492		953			
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	325	325			300			400		500	250	250
Storage Blk Time (%)											0	0
Queuing Penalty (veh)											0	0

Intersection: 5: Rite Aid Driveway/Stinson Farms Site Drive & Idlewild Road

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	64	215
Average Queue (ft)	22	117
95th Queue (ft)	51	202
Link Distance (ft)	1074	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		250
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: Stevens Mill Road & Idlewild Road

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	T	TR	L	T	T	R	L	L	T	R	L
Maximum Queue (ft)	465	497	160	349	375	319	138	194	226	241	200	187
Average Queue (ft)	332	179	72	47	249	232	85	98	133	134	70	106
95th Queue (ft)	489	466	124	150	337	302	134	167	208	206	140	183
Link Distance (ft)		466	466		1432					1373		
Upstream Blk Time (%)	1	0										
Queuing Penalty (veh)	0	3										
Storage Bay Dist (ft)	500			250		500	500	250	250		300	300
Storage Blk Time (%)	1	0			6					0		
Queuing Penalty (veh)	3	2			38					0		

Intersection: 6: Stevens Mill Road & Idlewild Road

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (ft)	342	359	187
Average Queue (ft)	130	182	100
95th Queue (ft)	227	311	171
Link Distance (ft)		343	
Upstream Blk Time (%)	0	0	
Queuing Penalty (veh)	0	3	
Storage Bay Dist (ft)	300		300
Storage Blk Time (%)		2	
Queuing Penalty (veh)		10	

Intersection: 7: Idlewild Road & Access A

Movement	EB	EB	SB
Directions Served	T	T	R
Maximum Queue (ft)	247	152	90
Average Queue (ft)	9	5	40
95th Queue (ft)	83	50	74
Link Distance (ft)	1492	1492	976
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 8: Stevens Mill Road & Access B

Movement	EB	SB
Directions Served	R	T
Maximum Queue (ft)	62	114
Average Queue (ft)	34	5
95th Queue (ft)	59	39
Link Distance (ft)	1036	578
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		0
Queuing Penalty (veh)		0

Intersection: 9: Stevens Mill Road & Access C

Movement	EB	EB	NB	NB	SB	SB
Directions Served	L	R	L	T	T	R
Maximum Queue (ft)	238	176	350	118	374	200
Average Queue (ft)	105	65	178	69	223	62
95th Queue (ft)	177	134	291	130	334	189
Link Distance (ft)	951	951		578	566	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			350			100
Storage Blk Time (%)			0		27	
Queuing Penalty (veh)			1		21	

Network Summary

Network wide Queuing Penalty: 375

Intersection: 1: Stallings Road/Hooks Road & Idlewild Road

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	L	T	T	R	L	L	TR	LT	R	LTR
Maximum Queue (ft)	31	298	315	288	249	267	149	178	272	119
Average Queue (ft)	3	161	194	100	157	177	36	81	155	47
95th Queue (ft)	17	245	287	204	225	240	100	147	238	96
Link Distance (ft)			1248			964	964	1522		2072
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	275	275		200	250				250	
Storage Blk Time (%)		0	8	1	0	1		0	1	
Queuing Penalty (veh)		0	48	5	1	3		0	1	

Intersection: 2: I-485 Inner On Ramp/I-485 Inner Off Ramp & Idlewild Road

Movement	EB	EB	EB	WB	WB	WB	SB	SB	SB
Directions Served	T	T	R	L	T	T	LT	R	R
Maximum Queue (ft)	421	421	200	477	480	144	374	352	338
Average Queue (ft)	217	220	152	287	93	32	222	207	206
95th Queue (ft)	359	371	241	453	332	104	331	307	303
Link Distance (ft)	964	964			827	827	1237		
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)			100	275				400	400
Storage Blk Time (%)		33	35	16	0		0		0
Queuing Penalty (veh)		109	149	77	1		0		0

Intersection: 3: I-485 Outer Off Ramp/I-485 Outer On Ramp & Idlewild Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	T	T	R	LT	R	R
Maximum Queue (ft)	372	268	138	362	326	257	308	230	205
Average Queue (ft)	213	42	15	226	165	146	166	126	80
95th Queue (ft)	334	181	82	336	268	234	273	202	169
Link Distance (ft)		827	827	509	509			967	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	275					300	900		225
Storage Blk Time (%)	5	0			0	0		0	0
Queuing Penalty (veh)	21	0			0	0		1	0

Intersection: 4: Boyd Funderburk Drive/Marshall Hooks Road & Idlewild Road

Movement	EB	EB	WB	NB	SB
Directions Served	L	R	L	R	R
Maximum Queue (ft)	78	16	64	47	103
Average Queue (ft)	30	1	24	20	43
95th Queue (ft)	65	8	54	44	86
Link Distance (ft)				1014	1079
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	150	100	125		
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 5: Rite Aid Driveway/Stinson Farms Site Drive & Idlewild Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	L	T	TR	L	T	T	R	L	TR	L	L
Maximum Queue (ft)	156	172	107	103	108	314	316	94	259	204	195	210
Average Queue (ft)	79	98	49	52	44	194	198	35	133	85	94	110
95th Queue (ft)	141	151	92	93	93	282	289	73	227	163	166	180
Link Distance (ft)			962	962		1492	1492		953			
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	325	325			300			400		500	250	250
Storage Blk Time (%)						1	0					0
Queuing Penalty (veh)						0	0					0

Intersection: 5: Rite Aid Driveway/Stinson Farms Site Drive & Idlewild Road

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	148	301
Average Queue (ft)	26	148
95th Queue (ft)	85	267
Link Distance (ft)	1074	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		250
Storage Blk Time (%)		3
Queuing Penalty (veh)		11

Intersection: 6: Stevens Mill Road & Idlewild Road

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	T	TR	L	T	T	R	L	L	T	R	L
Maximum Queue (ft)	370	229	218	132	338	330	97	187	205	227	149	132
Average Queue (ft)	203	97	121	59	232	211	30	83	117	121	61	62
95th Queue (ft)	328	181	190	112	315	302	74	157	181	202	116	110
Link Distance (ft)		466	466		1432					1373		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	500			250		500	500	250	250		300	300
Storage Blk Time (%)					5					1		
Queuing Penalty (veh)					35					2		

Intersection: 6: Stevens Mill Road & Idlewild Road

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (ft)	200	323	312
Average Queue (ft)	77	132	163
95th Queue (ft)	141	239	273
Link Distance (ft)		343	
Upstream Blk Time (%)		0	0
Queuing Penalty (veh)		0	0
Storage Bay Dist (ft)	300		300
Storage Blk Time (%)		0	0
Queuing Penalty (veh)		1	1

Intersection: 7: Idlewild Road & Access A

Movement	SB
Directions Served	R
Maximum Queue (ft)	99
Average Queue (ft)	41
95th Queue (ft)	76
Link Distance (ft)	976
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 8: Stevens Mill Road & Access B

Movement	EB
Directions Served	R
Maximum Queue (ft)	78
Average Queue (ft)	31
95th Queue (ft)	61
Link Distance (ft)	1036
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 9: Stevens Mill Road & Access C

Movement	EB	EB	NB	NB	SB	SB
Directions Served	L	R	L	T	T	R
Maximum Queue (ft)	140	138	228	138	343	137
Average Queue (ft)	71	48	124	61	174	19
95th Queue (ft)	125	104	202	125	337	95
Link Distance (ft)	951	951		578	566	
Upstream Blk Time (%)					0	
Queuing Penalty (veh)					0	
Storage Bay Dist (ft)			350			100
Storage Blk Time (%)					16	0
Queuing Penalty (veh)					8	0

Network Summary

Network wide Queuing Penalty: 475

Stevens Mill and Idlewild Crossing - Stallings, NC
Queuing and Blocking Report

2030 Build - Improved
PM Peak Hour

Intersection: 1: Stallings Road/Hooks Road & Idlewild Road

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	L	T	T	R	L	L	TR	LT	R	LTR
Maximum Queue (ft)	21	351	378	300	241	260	195	288	307	138
Average Queue (ft)	2	217	244	107	159	179	90	85	174	54
95th Queue (ft)	14	323	347	246	227	245	153	187	282	109
Link Distance (ft)			1248			964	964	1522		2072
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	275	275		200	250				250	
Storage Blk Time (%)		1	13	0	0	0		0	3	
Queuing Penalty (veh)		5	95	2	0	1		1	3	

Intersection: 2: I-485 Inner On Ramp/I-485 Inner Off Ramp & Idlewild Road

Movement	EB	EB	EB	WB	WB	WB	SB	SB	SB
Directions Served	T	T	R	L	T	T	LT	R	R
Maximum Queue (ft)	533	519	200	448	610	521	527	373	211
Average Queue (ft)	350	341	155	262	164	87	289	110	110
95th Queue (ft)	540	530	263	464	523	373	469	265	180
Link Distance (ft)	964	964			827	827	1237		
Upstream Blk Time (%)					0	0			
Queuing Penalty (veh)					0	0			
Storage Bay Dist (ft)			100	275				400	400
Storage Blk Time (%)		47	17	19	0		5		
Queuing Penalty (veh)		127	105	104	0		14		

Intersection: 3: I-485 Outer Off Ramp/I-485 Outer On Ramp & Idlewild Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	T	T	R	LT	R	R
Maximum Queue (ft)	417	363	203	322	318	251	337	382	306
Average Queue (ft)	238	138	91	197	182	132	208	234	188
95th Queue (ft)	361	301	154	299	285	224	323	331	272
Link Distance (ft)		827	827	509	509			967	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	275					300	900		225
Storage Blk Time (%)	7	0			1			10	1
Queuing Penalty (veh)	47	0			2			63	7

Stevens Mill and Idlewild Crossing - Stallings, NC
Queuing and Blocking Report

2030 Build - Improved
PM Peak Hour

Intersection: 4: Boyd Funderburk Drive/Marshall Hooks Road & Idlewild Road

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	R	L	T	R	R
Maximum Queue (ft)	80	41	126	120	73	66
Average Queue (ft)	30	3	48	5	27	28
95th Queue (ft)	64	19	98	43	56	57
Link Distance (ft)				962	1014	1079
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	150	100	125			
Storage Blk Time (%)			0	0		
Queuing Penalty (veh)			2	0		

Intersection: 5: Rite Aid Driveway/Stinson Farms Site Drive & Idlewild Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	L	T	TR	L	T	T	R	L	TR	L	L
Maximum Queue (ft)	175	214	339	348	325	394	334	175	348	337	285	310
Average Queue (ft)	96	115	215	218	227	167	136	34	180	189	141	144
95th Queue (ft)	146	176	321	325	395	348	252	109	301	315	257	253
Link Distance (ft)			962	962		1492	1492		953			
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	325	325			300			400		500	250	250
Storage Blk Time (%)			1		19	0					4	2
Queuing Penalty (veh)			2		99	0					6	3

Intersection: 5: Rite Aid Driveway/Stinson Farms Site Drive & Idlewild Road

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	64	206
Average Queue (ft)	20	98
95th Queue (ft)	53	179
Link Distance (ft)	1074	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		250
Storage Blk Time (%)		0
Queuing Penalty (veh)		0

Stevens Mill and Idlewild Crossing - Stallings, NC
Queuing and Blocking Report

2030 Build - Improved
PM Peak Hour

Intersection: 6: Stevens Mill Road & Idlewild Road

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	T	TR	L	T	T	R	L	L	T	R	L
Maximum Queue (ft)	466	518	388	303	416	395	202	192	252	259	146	240
Average Queue (ft)	401	326	115	61	304	277	96	105	133	129	67	131
95th Queue (ft)	547	667	259	189	413	387	168	179	211	223	123	233
Link Distance (ft)		466	466		1432					1373		
Upstream Blk Time (%)	20	24	0									
Queuing Penalty (veh)	0	198	0									
Storage Bay Dist (ft)	500			250		500	500	250	250		300	300
Storage Blk Time (%)	20	24			18				0	1		0
Queuing Penalty (veh)	96	129			117				0	4		0

Intersection: 6: Stevens Mill Road & Idlewild Road

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (ft)	262	328	262
Average Queue (ft)	170	203	163
95th Queue (ft)	310	388	336
Link Distance (ft)		343	
Upstream Blk Time (%)	0	7	0
Queuing Penalty (veh)	0	49	0
Storage Bay Dist (ft)	300		300
Storage Blk Time (%)	0	14	0
Queuing Penalty (veh)	1	76	0

Intersection: 7: Idlewild Road & Access A

Movement	EB	EB	SB
Directions Served	T	T	R
Maximum Queue (ft)	400	344	117
Average Queue (ft)	167	82	50
95th Queue (ft)	532	361	92
Link Distance (ft)	1492	1492	976
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 8: Stevens Mill Road & Access B

Movement	EB	SB	SB
Directions Served	R	T	R
Maximum Queue (ft)	90	243	80
Average Queue (ft)	36	86	10
95th Queue (ft)	72	378	83
Link Distance (ft)	1036	578	
Upstream Blk Time (%)		2	
Queuing Penalty (veh)		13	
Storage Bay Dist (ft)			100
Storage Blk Time (%)		9	
Queuing Penalty (veh)		7	

Intersection: 9: Stevens Mill Road & Access C

Movement	EB	EB	NB	NB	SB	SB
Directions Served	L	R	L	T	T	R
Maximum Queue (ft)	222	154	303	104	448	200
Average Queue (ft)	112	72	175	50	248	51
95th Queue (ft)	186	138	274	98	424	166
Link Distance (ft)	951	951		578	566	
Upstream Blk Time (%)					0	
Queuing Penalty (veh)					0	
Storage Bay Dist (ft)			350			100
Storage Blk Time (%)			0		28	0
Queuing Penalty (veh)			0		23	1

Network Summary

Network wide Queuing Penalty: 1405

APPENDIX O

Crash Data

**North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
Strip Analysis Report**

Study Criteria Summary

County: MECKLENBURG **City:** All and Rural
Date: 4/1/2020 **to** 4/1/2023 **Study:** IDLEWILD2023
Location:

Report Details

Acc No	Crash ID	Milepost	Date	Accident Type	Total Damage	Injuries				Condition			Road		Trfc Ctl	
						F	A	B	C	R	L	W	Ch	Ci	Dv	Op
1	107190350	0.000	12/22/2022 16:39	REAR END, SLOW OR STOP	\$ 1800	0	0	0	0	2	1	3	1	0	0	
Unit	1 : 1	Alchl/Drgs:	0	Speed: 45 MPH Dir: E		Veh Mnvr/Ped Actn:				1	Obj Strk:					
Unit	2 : 2	Alchl/Drgs:	0	Speed: 45 MPH Dir: E		Veh Mnvr/Ped Actn:				4	Obj Strk:					
2	107017951	0.100	07/16/2022 23:37	REAR END, SLOW OR STOP	\$ 15000	0	0	0	2	1	1	1	1	0	13	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 60 MPH Dir: W		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 45 MPH Dir: W		Veh Mnvr/Ped Actn:				11	Obj Strk:					
3	106715164	0.169	10/01/2021 12:36	LEFT TURN, SAME ROADWAY	\$ 16000	0	0	0	2	1	1	1	1	0	1	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 30 MPH Dir: S		Veh Mnvr/Ped Actn:				8	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 45 MPH Dir: E		Veh Mnvr/Ped Actn:				4	Obj Strk:					
4	106434685	0.183	12/11/2020 09:40	REAR END, SLOW OR STOP	\$ 10000	0	0	0	2	1	1	1	1	0	3	1
Unit	1 : 4	Alchl/Drgs:	0	Speed: 45 MPH Dir: SE		Veh Mnvr/Ped Actn:				11	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 0 MPH Dir: SE		Veh Mnvr/Ped Actn:				1	Obj Strk:					
5	106487171	0.195	02/11/2021 17:27	REAR END, SLOW OR STOP	\$ 5700	0	0	0	0	2	4	3	1	0	0	
Unit	1 : 1	Alchl/Drgs:	0	Speed: 0 MPH Dir: SE		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 5	Alchl/Drgs:	0	Speed: 35 MPH Dir: SE		Veh Mnvr/Ped Actn:				1	Obj Strk:					
6	106232009	0.197	05/21/2020 18:29	ANGLE	\$ 11000	0	0	1	4	2	1	2	1	0	3	1
Unit	1 : 4	Alchl/Drgs:	0	Speed: 0 MPH Dir: NE		Veh Mnvr/Ped Actn:				9	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 45 MPH Dir: W		Veh Mnvr/Ped Actn:				4	Obj Strk:					
7	106321212	0.197	08/28/2020 13:54	REAR END, SLOW OR STOP	\$ 2000	0	0	0	2	1	1	1	1	0	3	1
Unit	1 : 2	Alchl/Drgs:	0	Speed: 10 MPH Dir: NE		Veh Mnvr/Ped Actn:				7	Obj Strk:					
Unit	2 : 4	Alchl/Drgs:	0	Speed: 0 MPH Dir: NE		Veh Mnvr/Ped Actn:				1	Obj Strk:					
8	106327180	0.197	09/02/2020 13:56	ANGLE	\$ 1000	0	0	0	0	1	1	1	1	0	3	1
Unit	1 : 10	Alchl/Drgs:	0	Speed: 20 MPH Dir: NE		Veh Mnvr/Ped Actn:				8	Obj Strk:					

06/12/2023

All data presented in this report comes explicitly from the Traffic Engineering Accident Analysis System based upon vi-
criteria provided by the report's creator. The onus is strictly upon the user of this report to exercise due diligence in ir
and further representing this data.

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North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
Strip Analysis Report

Acc No	Crash ID	Milepost	Date	Accident Type	Total Damage	Injuries				Condition			Road		Trfc Ctl	
						F	A	B	C	R	L	W	Ch	Ci	Dv	Op
Unit	2 : 4	Alchl/Drgs:	0	Speed: 45 MPH Dir: SE		Veh Mnvr/Ped Actn:				4	Obj Strk:					
9	106392709	0.197	11/04/2020 13:43	RIGHT TURN, SAME ROADWAY	\$ 11000	0	0	0	2	1	1	1	1	0	0	
Unit	1 : 5	Alchl/Drgs:	0	Speed: 20 MPH Dir: W		Veh Mnvr/Ped Actn:				7	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 45 MPH Dir: W		Veh Mnvr/Ped Actn:				4	Obj Strk:					
10	106423536	0.197	11/18/2020 16:24	ANGLE	\$ 7500	0	0	0	2	1	1	1	1	0	3	3
Unit	1 : 1	Alchl/Drgs:	0	Speed: 0 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 4	Alchl/Drgs:	0	Speed: 0 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					
11	106418748	0.197	11/28/2020 15:56	ANGLE	\$ 4000	0	0	0	0	1	1	1	1	0	3	1
Unit	1 : 4	Alchl/Drgs:	0	Speed: 45 MPH Dir: E		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 0 MPH Dir: N		Veh Mnvr/Ped Actn:				8	Obj Strk:					
12	106437614	0.197	12/15/2020 10:35	ANGLE	\$ 8500	0	0	0	3	1	1	1	1	0	3	1
Unit	1 : 5	Alchl/Drgs:	0	Speed: 45 MPH Dir: E		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 10	Alchl/Drgs:	0	Speed: 15 MPH Dir: N		Veh Mnvr/Ped Actn:				8	Obj Strk:					
13	106451499	0.197	12/31/2020 12:25	ANGLE	\$ 20000	0	0	0	1	1	1	1	1	0	3	1
Unit	1 : 2	Alchl/Drgs:	0	Speed: 30 MPH Dir: SW		Veh Mnvr/Ped Actn:				8	Obj Strk:					
Unit	2 : 4	Alchl/Drgs:	0	Speed: 45 MPH Dir: NW		Veh Mnvr/Ped Actn:				4	Obj Strk: 33					
14	106626325	0.197	07/09/2021 16:52	REAR END, SLOW OR STOP	\$ 11000	0	0	0	0	2	1	2	1	0	3	1
Unit	1 : 4	Alchl/Drgs:	0	Speed: 35 MPH Dir: N		Veh Mnvr/Ped Actn:				11	Obj Strk:					
Unit	2 : 4	Alchl/Drgs:	0	Speed: 0 MPH Dir: N		Veh Mnvr/Ped Actn:				1	Obj Strk:					
15	106673995	0.197	08/16/2021 18:09	REAR END, SLOW OR STOP	\$ 100	0	0	0	0	2	1	3	1	0	3	1
Unit	1 : 32	Alchl/Drgs:	7	Speed: 5 MPH Dir: SE		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 0 MPH Dir: SE		Veh Mnvr/Ped Actn:				1	Obj Strk:					
16	106697431	0.197	09/14/2021 18:08	REAR END, SLOW OR STOP	\$ 7200	0	0	0	1	1	1	1	3	0	3	1
Unit	1 : 4	Alchl/Drgs:	0	Speed: 45 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 4	Alchl/Drgs:	0	Speed: 45 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	3 : 4	Alchl/Drgs:	0	Speed: 0 MPH Dir: S		Veh Mnvr/Ped Actn:				1	Obj Strk:					
17	106760164	0.197	11/01/2021 06:23	LEFT TURN, SAME ROADWAY	\$ 15000	0	0	0	0	1	5	1	1	0	3	1
Unit	1 : 2	Alchl/Drgs:	0	Speed: 45 MPH Dir: N		Veh Mnvr/Ped Actn:				8	Obj Strk:					

06/12/2023

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North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
Strip Analysis Report

Acc No	Crash ID	Milepost	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: 45 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					
18	106765497	0.197	11/13/2021 18:30	REAR END, SLOW OR STOP	\$ 1600	0	0	0	0	1	5	1	1	0	3	1
Unit	1 : 4	Alchl/Drgs:	0	Speed: 45 MPH Dir: SE		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 45 MPH Dir: SE		Veh Mnvr/Ped Actn:				4	Obj Strk:					
19	106891451	0.197	03/16/2022 16:39	LEFT TURN, SAME ROADWAY	\$ 1800	0	0	0	0	2	1	3	1	0	1	1
Unit	1 : 5	Alchl/Drgs:	0	Speed: 15 MPH Dir: SE		Veh Mnvr/Ped Actn:				9	Obj Strk:					
Unit	2 : 5	Alchl/Drgs:	0	Speed: 10 MPH Dir: SE		Veh Mnvr/Ped Actn:				8	Obj Strk:					
20	106897038	0.197	03/22/2022 18:23	REAR END, SLOW OR STOP	\$ 10000	0	0	0	0	1	1	1	2	0	0	2
Unit	1 : 4	Alchl/Drgs:	0	Speed: 40 MPH Dir: SE		Veh Mnvr/Ped Actn:				11	Obj Strk:					
Unit	2 : 4	Alchl/Drgs:	0	Speed: 0 MPH Dir: SE		Veh Mnvr/Ped Actn:				1	Obj Strk:					
Unit	3 : 4	Alchl/Drgs:	0	Speed: 0 MPH Dir: SE		Veh Mnvr/Ped Actn:				1	Obj Strk:					
21	106912899	0.197	04/04/2022 07:08	LEFT TURN, SAME ROADWAY	\$ 4000	0	0	0	0	1	1	1	1	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 5 MPH Dir: N		Veh Mnvr/Ped Actn:				8	Obj Strk:					
Unit	2 : 5	Alchl/Drgs:	0	Speed: 40 MPH Dir: W		Veh Mnvr/Ped Actn:				4	Obj Strk:					
22	106918681	0.197	04/12/2022 07:15	REAR END, SLOW OR STOP	\$ 400	0	0	0	0	1	1	2	1	0	3	2
Unit	1 : 32	Alchl/Drgs:	7	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:					
23	107087888	0.197	09/22/2022 06:58	LEFT TURN, SAME ROADWAY	\$ 12000	0	0	0	0	1	3	1	3	0	3	1
Unit	1 : 2	Alchl/Drgs:	0	Speed: 45 MPH Dir: W		Veh Mnvr/Ped Actn:				8	Obj Strk:					
Unit	2 : 4	Alchl/Drgs:	0	Speed: 45 MPH Dir: E		Veh Mnvr/Ped Actn:				4	Obj Strk:					
24	107107122	0.197	10/11/2022 15:55	BACKING UP	\$ 1500	0	0	0	0	1	1	1	1	0	3	1
Unit	1 : 4	Alchl/Drgs:	7	Speed: 15 MPH Dir: NE		Veh Mnvr/Ped Actn:				10	Obj Strk:					
Unit	2 : 4	Alchl/Drgs:	0	Speed: 0 MPH Dir: W		Veh Mnvr/Ped Actn:				1	Obj Strk:					
25	107126533	0.197	10/12/2022 22:31	LEFT TURN, SAME ROADWAY	\$ 10000	0	0	2	1	2	5	3	2	0	3	2
Unit	1 : 4	Alchl/Drgs:	0	Speed: 10 MPH Dir: W		Veh Mnvr/Ped Actn:				8	Obj Strk:					
Unit	2 : 2	Alchl/Drgs:	0	Speed: 45 MPH Dir: E		Veh Mnvr/Ped Actn:				4	Obj Strk:					
26	107183333	0.197	12/16/2022 10:35	ANGLE	\$ 2000	0	0	0	0	1	1	1	1	0	3	1
Unit	1 : 4	Alchl/Drgs:	0	Speed: 45 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					

06/12/2023

All data presented in this report comes explicitly from the Traffic Engineering Accident Analysis System based upon v criteria provided by the report's creator. The onus is strictly upon the user of this report to exercise due diligence in ir and further representing this data.

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**North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
Strip Analysis Report**

Acc No	Crash ID	Milepost	Date	Accident Type	Total Damage	Injuries				Condition			Road		Trfc Ctl	
						F	A	B	C	R	L	W	Ch	Ci	Dv	Op
Unit	2 : 2	Alchl/Drgs:	0	Speed:	0 MPH Dir: W	Veh Mnvr/Ped Actn:				8	Obj Strk:					
27	107233152	0.197	01/30/2023 19:21	ANGLE	\$ 14000	0	0	0	1	1	5	1	1	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed:	10 MPH Dir: NW	Veh Mnvr/Ped Actn:				8	Obj Strk:					
Unit	2 : 5	Alchl/Drgs:	0	Speed:	45 MPH Dir: S	Veh Mnvr/Ped Actn:				4	Obj Strk:					
28	107235506	0.197	02/06/2023 08:28	ANGLE	\$ 20000	0	0	0	1	1	1	1	1	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed:	35 MPH Dir: SE	Veh Mnvr/Ped Actn:				8	Obj Strk:					
Unit	2 : 4	Alchl/Drgs:	0	Speed:	35 MPH Dir: W	Veh Mnvr/Ped Actn:				4	Obj Strk:					
29	106911637	0.206	02/09/2022 17:18	REAR END, SLOW OR STOP	\$ 1000	0	0	0	0	1	1	1	1	0	3	1
Unit	1 : 2	Alchl/Drgs:	0	Speed:	20 MPH Dir: W	Veh Mnvr/Ped Actn:				11	Obj Strk:					
Unit	2 : 2	Alchl/Drgs:	0	Speed:	0 MPH Dir: W	Veh Mnvr/Ped Actn:				1	Obj Strk:					
30	106908648	0.235	04/03/2022 09:00	SIDESWIPE, SAME DIRECTION	\$ 7500	0	0	0	0	1	1	1	1	0	0	
Unit	1 : 5	Alchl/Drgs:	0	Speed:	45 MPH Dir: N	Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 4	Alchl/Drgs:	0	Speed:	45 MPH Dir: N	Veh Mnvr/Ped Actn:				4	Obj Strk:					
31	106862465	0.266	02/15/2022 18:10	REAR END, SLOW OR STOP	\$ 2500	0	0	0	0	1	2	1	1	0	0	
Unit	1 : 1	Alchl/Drgs:	0	Speed:	25 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:					
32	106603768	0.273	04/26/2021 06:43	RAN OFF ROAD - RIGHT	\$ 10000	0	0	1	0	1	3	1	1	0		
Unit	1 : 1	Alchl/Drgs:	0	Speed:	45 MPH Dir: W	Veh Mnvr/Ped Actn:				4	Obj Strk:					59
33	107083621	0.326	09/19/2022 20:03	ANIMAL	\$ 5000	0	0	0	0	1	5	1	1	0	0	
Unit	1 : 1	Alchl/Drgs:	0	Speed:	50 MPH Dir: E	Veh Mnvr/Ped Actn:				4	Obj Strk:					17
34	107205063	0.326	01/06/2023 18:31	LEFT TURN, SAME ROADWAY	\$ 10500	0	0	0	0	1	5	1	1	0	0	
Unit	1 : 2	Alchl/Drgs:	0	Speed:	10 MPH Dir: SW	Veh Mnvr/Ped Actn:				9	Obj Strk:					
Unit	2 : 4	Alchl/Drgs:	0	Speed:	10 MPH Dir: E	Veh Mnvr/Ped Actn:				4	Obj Strk:					
35	106862457	0.358	02/15/2022 18:25	REAR END, SLOW OR STOP	\$ 1500	0	0	0	0	1	2	1	1	0	0	
Unit	1 : 4	Alchl/Drgs:	0	Speed:	20 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:					

North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
Strip Analysis Report

Acc No	Crash ID	Milepost	Date	Accident Type	Total Damage	Injuries				Condition			Road		Trfc Ctl	
						F	A	B	C	R	L	W	Ch	Ci	Dv	Op
36	106452487	0.398	01/02/2021 09:57	REAR END, SLOW OR STOP	\$ 12000	0	0	1	0	2	1	2	1	0	0	
Unit	1 : 1	Alchl/Drgs:	0	Speed: 45 MPH Dir: E		Veh Mnvr/Ped Actn:				4		Obj Strk:		59		
Unit	2 : 4	Alchl/Drgs:	0	Speed: 435 MPH Dir: E		Veh Mnvr/Ped Actn:				4		Obj Strk:				
Unit	3 : 2	Alchl/Drgs:	0	Speed: 40 MPH Dir: E		Veh Mnvr/Ped Actn:				4		Obj Strk:				
37	106279339	0.426	07/19/2020 12:37	ANGLE	\$ 18000	0	0	0	4	1	1	1	2	0	1	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 20 MPH Dir: S		Veh Mnvr/Ped Actn:				8		Obj Strk:				
Unit	2 : 1	Alchl/Drgs:	0	Speed: 57 MPH Dir: E		Veh Mnvr/Ped Actn:				4		Obj Strk:				
38	106365114	0.426	10/12/2020 13:05	ANGLE	\$ 2000	0	0	0	1	2	1	2	1	0	1	1
Unit	1 : 4	Alchl/Drgs:	0	Speed: 35 MPH Dir: W		Veh Mnvr/Ped Actn:				8		Obj Strk:				
Unit	2 : 1	Alchl/Drgs:	0	Speed: 35 MPH Dir: E		Veh Mnvr/Ped Actn:				8		Obj Strk:				
39	106602041	0.426	04/22/2021 08:00	LEFT TURN, DIFFERENT ROADWAYS	\$ 20000	0	0	0	2	1	1	1	1	0	1	1
Unit	1 : 5	Alchl/Drgs:	0	Speed: 15 MPH Dir: SW		Veh Mnvr/Ped Actn:				8		Obj Strk:				
Unit	2 : 4	Alchl/Drgs:	0	Speed: 45 MPH Dir: E		Veh Mnvr/Ped Actn:				4		Obj Strk:				
40	106668714	0.426	08/25/2021 08:45	REAR END, SLOW OR STOP	\$ 1250	0	0	0	0	1	1	1	1	0	1	1
Unit	1 : 4	Alchl/Drgs:	0	Speed: 5 MPH Dir: N		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:				
41	106741203	0.426	10/15/2021 06:28	ANGLE	\$ 16000	0	0	0	4	1	5	1	1	0	1	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 0 MPH Dir: N		Veh Mnvr/Ped Actn:				8		Obj Strk:				
Unit	2 : 1	Alchl/Drgs:	0	Speed: 40 MPH Dir: E		Veh Mnvr/Ped Actn:				4		Obj Strk:				
42	106847123	0.426	01/31/2022 17:08	LEFT TURN, DIFFERENT ROADWAYS	\$ 2700	0	0	0	0	1	1	1	1	0	1	1
Unit	1 : 2	Alchl/Drgs:	0	Speed: 10 MPH Dir: N		Veh Mnvr/Ped Actn:				8		Obj Strk:				
Unit	2 : 1	Alchl/Drgs:	0	Speed: 40 MPH Dir: E		Veh Mnvr/Ped Actn:				4		Obj Strk:				
43	106944307	0.426	05/04/2022 08:46	ANGLE	\$ 13000	0	0	1	0	1	1	2	1	0	1	2
Unit	1 : 10	Alchl/Drgs:	0	Speed: 10 MPH Dir: N		Veh Mnvr/Ped Actn:				8		Obj Strk:				
Unit	2 : 1	Alchl/Drgs:	0	Speed: 45 MPH Dir: SE		Veh Mnvr/Ped Actn:				4		Obj Strk:				
44	106952398	0.426	05/12/2022 16:45	ANGLE	\$ 10000	0	0	0	0	1	1	1	1	0	1	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 20 MPH Dir: W		Veh Mnvr/Ped Actn:				8		Obj Strk:				
Unit	2 : 4	Alchl/Drgs:	0	Speed: 0 MPH Dir: W		Veh Mnvr/Ped Actn:				1		Obj Strk:				
Unit	3 : 4	Alchl/Drgs:	0	Speed: 25 MPH Dir: E		Veh Mnvr/Ped Actn:				4		Obj Strk:				

**North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
Strip Analysis Report**

Acc No	Crash ID	Milepost	Date	Accident Type	Total Damage	Injuries				Condition			Road		Trfc Ctl	
						F	A	B	C	R	L	W	Ch	Ci	Dv	Op
45	107113603	0.426	10/17/2022 17:44	ANGLE	\$ 10000	0	0	0	2	1	1	1	5	0	0	
Unit	1 : 1	Alchl/Drugs:	0	Speed:	25 MPH Dir: SE	Veh Mnvr/Ped Actn:				8	Obj Strk:					
Unit	2 : 1	Alchl/Drugs:	0	Speed:	45 MPH Dir: NE	Veh Mnvr/Ped Actn:				4	Obj Strk:					
46	107223312	0.426	01/24/2023 15:33	ANGLE	\$ 4000	0	0	0	3	1	1	1	1	0	0	
Unit	1 : 1	Alchl/Drugs:	0	Speed:	35 MPH Dir: N	Veh Mnvr/Ped Actn:				8	Obj Strk:					
Unit	2 : 4	Alchl/Drugs:	0	Speed:	45 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/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
Strip Analysis Report

Summary Statistics

High Level Crash Summary

Crash Type	Number of Crashes	Percent of Total
Total Crashes	46	100.00
Fatal Crashes	0	0.00
Non-Fatal Injury Crashes	22	47.83
Total Injury Crashes	22	47.83
Property Damage Only Crashes	24	52.17
Night Crashes	8	17.39
Wet Crashes	9	19.57
Alcohol/Drugs Involvement Crashes	0	0.00

Crash Severity Summary

Crash Type	Number of Crashes	Percent of Total
Total Crashes	46	100.00
Fatal Crashes	0	0.00
Class A Crashes	0	0.00
Class B Crashes	5	10.87
Class C Crashes	17	36.96
Property Damage Only Crashes	24	52.17

Vehicle Exposure Statistics

Annual ADT = 6900

Total Length = 0.426 (Miles) 0.686 (Kilometers)

Total Vehicle Exposure = 3.22 (MVMT) 5.18 (MVKMT)

Crash Rate	Crashes Per 100 Million Vehicle Miles	Crashes Per 100 Million Vehicle Kilometers
Total Crash Rate	1427.87	887.24
Fatal Crash Rate	0.00	0.00
Non Fatal Crash Rate	682.89	424.33
Night Crash Rate	248.33	154.30
Wet Crash Rate	279.37	173.59
EPDO Rate	6481.29	4027.28

**North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
Strip Analysis Report**

Miscellaneous Statistics

Severity Index =	4.54
EPDO Crash Index =	208.80
Estimated Property Damage Total = \$	371050.00

Accident Type Summary

Accident Type	Number of Crashes	Percent of Total
ANGLE	16	34.78
ANIMAL	1	2.17
BACKING UP	1	2.17
LEFT TURN, DIFFERENT ROADWAYS	2	4.35
LEFT TURN, SAME ROADWAY	7	15.22
RAN OFF ROAD - RIGHT	1	2.17
REAR END, SLOW OR STOP	16	34.78
RIGHT TURN, SAME ROADWAY	1	2.17
SIDESWIPE, SAME DIRECTION	1	2.17

Injury Summary

Injury Type	Number of Injuries	Percent of Total
Fatal Injuries	0	0.00
Class A Injuries	0	0.00
Class B Injuries	6	13.04
Class C Injuries	40	86.96
Total Non-Fatal Injuries	46	100.00
Total Injuries	46	100.00

**North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
Strip Analysis Report**

Monthly Summary

Month	Number of Crashes	Percent of Total
Jan	5	10.87
Feb	5	10.87
Mar	2	4.35
Apr	5	10.87
May	3	6.52
Jun	0	0.00
Jul	3	6.52
Aug	3	6.52
Sep	4	8.70
Oct	6	13.04
Nov	5	10.87
Dec	5	10.87

Daily Summary

Day	Number of Crashes	Percent of Total
Mon	10	21.74
Tue	8	17.39
Wed	8	17.39
Thu	7	15.22
Fri	7	15.22
Sat	4	8.70
Sun	2	4.35

**North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
Strip Analysis Report**

Hourly Summary

Hour	Number of Crashes	Percent of Total
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	4	8.70
0700-0759	2	4.35
0800-0859	4	8.70
0900-0959	3	6.52
1000-1059	2	4.35
1100-1159	0	0.00
1200-1259	3	6.52
1300-1359	4	8.70
1400-1459	0	0.00
1500-1559	3	6.52
1600-1659	5	10.87
1700-1759	4	8.70
1800-1859	8	17.39
1900-1959	1	2.17
2000-2059	1	2.17
2100-2159	0	0.00
2200-2259	1	2.17
2300-2359	1	2.17

North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
Strip Analysis Report

Light and Road Conditions Summary

Condition	Dry	Wet	Other	Total
Day	27	7	0	34
Dark	6	2	0	8
Other	4	0	0	4
Total	37	9	0	46

Object Struck Summary

Object Type	Times Struck	Percent of Total
ANIMAL	1	25.00
EMBANKMENT	2	50.00
TREE	1	25.00

Vehicle Type Summary

Vehicle Type	Number Involved	Percent of Total
PASSENGER CAR	33	35.11
PICKUP	12	12.77
SINGLE UNIT TRUCK (2-AXLE, 6-TIRE)	3	3.19
SPORT UTILITY	35	37.23
UNKNOWN	2	2.13
VAN	9	9.57

North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
Strip Analysis Report

Yearly Totals Summary

Accident Totals

Year	Total Accidents	Fatal Accidents	Injury Accidents	Property Damage Only Accidents
2020	11	0	9	2
2021	12	0	6	6
2022	19	0	4	15
2023	4	0	3	1
Total	46	0	22	24

Injury Totals

Year	Fatal Injuries	Class A, B, or C Injuries
2020	0	22
2021	0	11
2022	0	8
2023	0	5
Total	0	46

Miscellaneous Totals

Year	Property Damage	EPDO Index
2020	\$ 95000	77.60
2021	\$ 115850	56.40
2022	\$ 111700	48.60
2023	\$ 48500	26.20
Total	\$ 371050	208.80

Type of Accident Totals

Year	Left Turn	Right Turn	Rear End	Run Off Road & Fixed Object	Angle	Side Swipe	Other
2020	0	1	2	0	8	0	0
2021	3	0	7	1	1	0	0
2022	5	0	7	0	4	1	2
2023	1	0	0	0	3	0	0
Total	9	1	16	1	16	1	2

**North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
Strip Analysis Report**

Strip Diagram

Features	Milepost	Crash IDs
SR 5230 SR 5231 MARSHALL HOOKS BOYD FUNDERBURK CL-UNION	0.00	107190350
	0.01	
	0.02	
	0.03	
	0.04	
	0.05	
	0.06	
	0.07	
	0.08	
	0.09	
RAMP	0.10	107017951
	0.11	
	0.12	
	0.13	
	0.14	
	0.15	
	0.16	
	0.17	106715164
I 485 COUNTERCLOCKWISE	0.18	106434685
	0.19	106487171
I 485 I 485 CLOCKWISE Structure:590814	0.20	106232009 106321212 106327180 106392709 106423536 106418748 106437614 106451499 106626325 106673995 106697431 106760164 106765497 106891451 106897038 106912899 106918681 107087888 107107122 107126533 107183333 107233152 107235506
	0.21	106911637
	0.22	
	0.23	106908648
	0.24	
	0.25	
	0.26	
RAMP	0.27	106862465 106603768
	0.28	
	0.29	
	0.30	
	0.31	
	0.32	
	0.33	107083621 107205063
SR 5232 SR 5233	0.34	
	0.35	

**North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
Strip Analysis Report**

Features	Milepost	Crash IDs
SR 3175 STALLING	0.36	106862457
	0.37	
	0.38	
	0.39	
	0.40	106452487
	0.41	
	0.42	
	0.43	106279339 106365114 106602041 106668714
		106741203 106847123 106944307 106952398
		107113603 107223312

North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
Strip Analysis Report

Study Criteria

Study Name	Log No.	PH No.	TIP No.	K/A Cf.	B/C Cf.	ADT	ADT Route	
IDLEWILD2023				76.8	8.4	6900		
Request Date	Courier Service	Phone No.	Ext.	Fax No.				
County			Municipality					
Name	Code	Div.	Name	Code				
MECKLENBURG	60	10	All and Rural		Y-Line Ft.	Begin Date	End Date	Years
					0	4/1/2020	4/1/2023	3.00
Location Text			Requestor					

Included Accidents	Old MP	New MP	Type
106365114	0.427	0.426	I
106327180	999.999	0.197	I

Excluded Accidents
106266515
106283468
106337113
106930710
106978857
107212431

Fiche Roads	
Name	Code
SR 3174	40003174
IDLEWILD	50014855

Strip Road					
Name	Code	Begin MP	End MP	Miles	Kilometers
SR 3174	40003174	0.000	0.426	0.426	0.686

**North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
Strip Analysis Report**

Study Criteria Summary

County: UNION **City:** All and Rural
Date: 4/1/2020 **to** 4/1/2023 **Study:** IDLEWILD2023UNION
Location:

Report Details

Acc No	Crash ID	Milepost	Date	Accident Type	Total Damage	Injuries				Condition			Road		Trfc Ctl	
						F	A	B	C	R	L	W	Ch	Ci	Dv	Op
1	106261149	1.393	06/27/2020 11:15	ANGLE	\$ 18500	0	0	1	1	1	1	1	1	0	3	1
Unit	1 : 4	Alchl/Drgs:	0	Speed: 40 MPH Dir: E		Veh Mnvr/Ped Actn: 4				Obj Strk:						
Unit	2 : 1	Alchl/Drgs:	0	Speed: 40 MPH Dir: NE		Veh Mnvr/Ped Actn: 4				Obj Strk:						
2	106309267	1.393	08/15/2020 16:19	SIDESWIPE, OPPOSITE DIRECTION	\$ 3000	0	0	0	0	2	1	2	1	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 35 MPH Dir: W		Veh Mnvr/Ped Actn: 4				Obj Strk:						
Unit	2 : 1	Alchl/Drgs:	0	Speed: 0 MPH Dir: E		Veh Mnvr/Ped Actn: 8				Obj Strk:						
3	106566330	1.393	05/05/2021 18:24	SIDESWIPE, SAME DIRECTION	\$ 2000	0	0	0	0	1	1	1	1	0	3	1
Unit	1 : 4	Alchl/Drgs:	0	Speed: 20 MPH Dir: E		Veh Mnvr/Ped Actn: 4				Obj Strk:						
Unit	2 : 4	Alchl/Drgs:	0	Speed: 10 MPH Dir: E		Veh Mnvr/Ped Actn: 7				Obj Strk:						
4	106614460	1.393	07/01/2021 19:12	ANGLE	\$ 14000	0	0	0	1	1	1	1	3	0	3	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: 45 MPH Dir: E		Veh Mnvr/Ped Actn: 4				Obj Strk:			58			
5	106787057	1.393	12/01/2021 12:12	LEFT TURN, SAME ROADWAY	\$ 20000	0	0	2	0	1	1	1	1	0	3	
Unit	1 : 1	Alchl/Drgs:	0	Speed: 45 MPH Dir: NW		Veh Mnvr/Ped Actn: 4				Obj Strk:						
Unit	2 : 1	Alchl/Drgs:	0	Speed: 20 MPH Dir: NE		Veh Mnvr/Ped Actn: 8				Obj Strk:						
6	106975026	1.393	05/28/2022 07:37	LEFT TURN, DIFFERENT ROADWAYS	\$ 800	0	0	0	0	1	1	1	1	0	3	1
Unit	1 : 5	Alchl/Drgs:	0	Speed: 45 MPH Dir: W		Veh Mnvr/Ped Actn: 8				Obj Strk:						
Unit	2 : 5	Alchl/Drgs:	0	Speed: 45 MPH Dir: S		Veh Mnvr/Ped Actn: 4				Obj Strk:						
7	107132466	1.393	11/02/2022 07:52	ANGLE	\$ 1000	0	0	0	0	1	1	1	1	0	3	1
Unit	1 : 32	Alchl/Drgs:	7	Speed: 0 MPH Dir: N		Veh Mnvr/Ped Actn: 4				Obj Strk:						
Unit	2 : 1	Alchl/Drgs:	0	Speed: 5 MPH Dir: W		Veh Mnvr/Ped Actn: 4				Obj Strk:						
8	107182171	1.393	12/14/2022 19:07	ANGLE	\$ 2500	0	0	0	0	2	5	2	1	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 10 MPH Dir: E		Veh Mnvr/Ped Actn: 8				Obj Strk:						

06/12/2023

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**North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
Strip Analysis Report**

Acc No	Crash ID	Milepost	Date	Accident Type	Total Damage	Injuries				Condition			Road		Trfc Ctl	
						F	A	B	C	R	L	W	Ch	Ci	Dv	Op
Unit	2 : 4	Alchl/Drgs:	0	Speed: 15 MPH Dir: W		Veh Mnvr/Ped Actn:				4	Obj Strk:					
9	107200610	1.393	01/03/2023 13:00	LEFT TURN, DIFFERENT ROADWAYS	\$ 2000	0	0	0	0	1	1	1	1	0	3	1
Unit	1 : 32	Alchl/Drgs:	7	Speed: 15 MPH Dir: NW		Veh Mnvr/Ped Actn:				8	Obj Strk:					
Unit	2 : 5	Alchl/Drgs:	0	Speed: 0 MPH Dir: S		Veh Mnvr/Ped Actn:				1	Obj Strk:					
10	106744621	1.398	10/28/2021 16:00	REAR END, SLOW OR STOP	\$ 7000	0	0	0	0	2	1	3	3	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 35 MPH Dir: SE		Veh Mnvr/Ped Actn:				11	Obj Strk:					
Unit	2 : 2	Alchl/Drgs:	0	Speed: 0 MPH Dir: SE		Veh Mnvr/Ped Actn:				1	Obj Strk:					
11	106470488	1.401	01/23/2021 13:09	ANIMAL	\$ 3000	0	0	0	0	1	1	1	1	0	0	
Unit	1 : 1	Alchl/Drgs:	0	Speed: 30 MPH Dir: E		Veh Mnvr/Ped Actn:				4	Obj Strk: 17					
12	107166554	1.412	12/01/2022 11:00	REAR END, SLOW OR STOP	\$ 200	0	0	0	0	1	1	1	3	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 10 MPH Dir: S		Veh Mnvr/Ped Actn:				11	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 0 MPH Dir: S		Veh Mnvr/Ped Actn:				1	Obj Strk:					
13	106437831	1.425	12/16/2020 09:18	REAR END, SLOW OR STOP	\$ 4500	0	0	0	0	2	1	3	1	1	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 35 MPH Dir: W		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 0 MPH Dir: W		Veh Mnvr/Ped Actn:				1	Obj Strk:					
14	106725278	1.435	10/08/2021 17:57	REAR END, SLOW OR STOP	\$ 1500	0	0	0	0	2	1	2	1	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 30 MPH Dir: W		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 10 MPH Dir: W		Veh Mnvr/Ped Actn:				11	Obj Strk:					
15	107184642	1.458	12/17/2022 14:34	REAR END, SLOW OR STOP	\$ 2000	0	0	0	0	1	1	1	1	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 15 MPH Dir: W		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 4	Alchl/Drgs:	0	Speed: 0 MPH Dir: W		Veh Mnvr/Ped Actn:				1	Obj Strk:					
16	106916599	1.459	04/10/2022 15:46	REAR END, SLOW OR STOP	\$ 19500	0	0	0	0	1	1	1	1	0	3	1
Unit	1 : 2	Alchl/Drgs:	0	Speed: 20 MPH Dir: W		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 0 MPH Dir: W		Veh Mnvr/Ped Actn:				11	Obj Strk: 20					
Unit	3 : 1	Alchl/Drgs:	0	Speed: 0 MPH Dir: W		Veh Mnvr/Ped Actn:				1	Obj Strk:					
Unit	4 : 1	Alchl/Drgs:	0	Speed: 20 MPH Dir: W		Veh Mnvr/Ped Actn:				4	Obj Strk:					
17	107229338	1.491	01/31/2023 15:55	REAR END, SLOW OR STOP	\$ 14000	0	0	0	0	1	1	1	2	0	3	1
Unit	1 : 32	Alchl/Drgs:	7	Speed: 45 MPH Dir: E		Veh Mnvr/Ped Actn:				5	Obj Strk:					

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North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
Strip Analysis Report

Acc No	Crash ID	Milepost	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:	0 MPH Dir: E	Veh Mnvr/Ped Actn:				1	Obj Strk:					
18	107130095	1.493	11/01/2022 07:34	REAR END, SLOW OR STOP	\$ 1500	0	0	0	0	2	1	1	1	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed:	20 MPH Dir: W	Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed:	0 MPH Dir: W	Veh Mnvr/Ped Actn:				1	Obj Strk:					
19	106654665	1.501	08/06/2021 16:49	REAR END, SLOW OR STOP	\$ 2500	0	0	0	1	2	1	2	2	0	13	1
Unit	1 : 1	Alchl/Drgs:	0	Speed:	15 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:					
Unit	3 : 1	Alchl/Drgs:	0	Speed:	0 MPH Dir: E	Veh Mnvr/Ped Actn:				1	Obj Strk:					
20	106999865	1.501	06/25/2022 14:48	REAR END, SLOW OR STOP	\$ 4000	0	0	1	0	1	1	1	2	0	0	
Unit	1 : 2	Alchl/Drgs:	0	Speed:	10 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:					
21	106800280	1.563	12/11/2021 13:13	REAR END, SLOW OR STOP	\$ 6000	0	0	0	0	1	1	2	2	0	13	1
Unit	1 : 2	Alchl/Drgs:	1	Speed:	35 MPH Dir: W	Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 4	Alchl/Drgs:	0	Speed:	0 MPH Dir: W	Veh Mnvr/Ped Actn:				1	Obj Strk:					
22	106738554	1.603	10/23/2021 19:07	REAR END, SLOW OR STOP	\$ 5000	0	0	0	0	1	5	1	4	0	12	1
Unit	1 : 1	Alchl/Drgs:	0	Speed:	30 MPH Dir: W	Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed:	0 MPH Dir: W	Veh Mnvr/Ped Actn:				1	Obj Strk:					
23	106787055	1.663	11/30/2021 19:33	RAN OFF ROAD - RIGHT	\$ 1000	0	0	0	0	1	4	1	2	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed:	35 MPH Dir: W	Veh Mnvr/Ped Actn:				4	Obj Strk:				60	
24	107007073	1.683	07/04/2022 21:05	SIDESWIPE, OPPOSITE DIRECTION	\$ 12500	0	0	1	0	1	5	1	3	0	0	
Unit	1 : 1	Alchl/Drgs:	1	Speed:	45 MPH Dir: W	Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 2	Alchl/Drgs:	0	Speed:	45 MPH Dir: W	Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	3 : 4	Alchl/Drgs:	0	Speed:	45 MPH Dir: E	Veh Mnvr/Ped Actn:				4	Obj Strk:					
25	106238577	1.741	05/31/2020 03:36	SIDESWIPE, OPPOSITE DIRECTION	\$ 3000	0	0	0	0	1	5	1	1	0	0	
Unit	1 : 32	Alchl/Drgs:	7	Speed:	35 MPH Dir: E	Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 4	Alchl/Drgs:	7	Speed:	0 MPH Dir: W	Veh Mnvr/Ped Actn:				2	Obj Strk:					
26	106995164	1.741	06/15/2022 15:28	REAR END, SLOW OR STOP	\$ 4000	0	0	0	0	1	1	1	1	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed:	30 MPH Dir: E	Veh Mnvr/Ped Actn:				4	Obj Strk:					

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**North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
Strip Analysis Report**

Acc No	Crash ID	Milepost	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:	0 MPH Dir:	E	Veh Mnvr/Ped Actn:				1	Obj Strk:				
27	107165052	1.743	11/28/2022 17:32	ANGLE	\$ 9000	0	0	0	1	1	1	1	1	0	0	
Unit	1 : 1	Alchl/Drgs:	0	Speed:	20 MPH Dir:	W	Veh Mnvr/Ped Actn:				8	Obj Strk:				
Unit	2 : 1	Alchl/Drgs:	0	Speed:	45 MPH Dir:	E	Veh Mnvr/Ped Actn:				4	Obj Strk:				
28	106236642	1.751	05/27/2020 22:08	RAN OFF ROAD - LEFT	\$ 2000	0	0	0	0	2	5	1	1	0	13	1
Unit	1 : 1	Alchl/Drgs:	1	Speed:	30 MPH Dir:	E	Veh Mnvr/Ped Actn:				7	Obj Strk: 58				
29	106289041	1.783	07/28/2020 09:08	REAR END, SLOW OR STOP	\$ 400	0	0	0	0	1	1	1	1	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed:	25 MPH Dir:	W	Veh Mnvr/Ped Actn:				4	Obj Strk:				
Unit	2 : 5	Alchl/Drgs:	0	Speed:	10 MPH Dir:	W	Veh Mnvr/Ped Actn:				4	Obj Strk:				
30	106399483	1.793	11/09/2020 17:03	REAR END, SLOW OR STOP	\$ 2250	0	0	0	1	1	1	2	3	0	3	1
Unit	1 : 10	Alchl/Drgs:	0	Speed:	5 MPH Dir:	NW	Veh Mnvr/Ped Actn:				4	Obj Strk:				
Unit	2 : 5	Alchl/Drgs:	0	Speed:	0 MPH Dir:	NW	Veh Mnvr/Ped Actn:				1	Obj Strk:				
31	106778208	1.797	11/22/2021 19:05	FIXED OBJECT	\$ 200	0	0	0	0	1	4	1	3	0	0	
Unit	1 : 14	Alchl/Drgs:	0	Speed:	45 MPH Dir:	E	Veh Mnvr/Ped Actn:				7	Obj Strk: 37				
32	107213227	1.797	01/14/2023 19:45	REAR END, SLOW OR STOP	\$ 2000	0	0	0	0	1	4	1	1	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed:	7 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:				
33	106970568	1.797	05/28/2022 11:29	ANGLE	\$ 4000	0	0	0	0	1	1	1	1	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed:	25 MPH Dir:	E	Veh Mnvr/Ped Actn:				5	Obj Strk:				
Unit	2 : 4	Alchl/Drgs:	0	Speed:	15 MPH Dir:	E	Veh Mnvr/Ped Actn:				4	Obj Strk:				
34	107098146	1.801	10/03/2022 14:03	SIDESWIPE, SAME DIRECTION	\$ 2000	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:				5	Obj Strk:				
Unit	2 : 1	Alchl/Drgs:	0	Speed:	15 MPH Dir:	E	Veh Mnvr/Ped Actn:				4	Obj Strk:				
35	106596784	1.811	06/07/2021 09:12	REAR END, SLOW OR STOP	\$ 200	0	0	0	0	1	1	2	3	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed:	10 MPH Dir:	E	Veh Mnvr/Ped Actn:				4	Obj Strk:				
Unit	2 : 12	Alchl/Drgs:	0	Speed:	0 MPH Dir:	E	Veh Mnvr/Ped Actn:				1	Obj Strk:				

**North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
Strip Analysis Report**

Acc No	Crash ID	Milepost	Date	Accident Type	Total Damage	Injuries				Condition			Road		Trfc Ctl	
						F	A	B	C	R	L	W	Ch	Ci	Dv	Op
36	106919704	1.821	04/12/2022 17:20	REAR END, SLOW OR STOP	\$ 1400	0	0	0	0	1	1	1	3	0	13	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 5 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:				4	Obj Strk:					
37	106506471	1.841	03/05/2021 12:31	ANGLE	\$ 2500	0	0	0	0	1	1	1	3	0	14	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 10 MPH Dir: E		Veh Mnvr/Ped Actn:				7	Obj Strk:					
Unit	2 : 4	Alchl/Drgs:	0	Speed: 45 MPH Dir: E		Veh Mnvr/Ped Actn:				4	Obj Strk:					
38	106577385	1.851	05/17/2021 16:52	REAR END, SLOW OR STOP	\$ 1100	0	0	0	0	1	1	1	2	0	3	1
Unit	1 : 2	Alchl/Drgs:	0	Speed: 5 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:				4	Obj Strk:					
39	106407688	1.862	11/16/2020 18:14	REAR END, SLOW OR STOP	\$ 1000	0	0	0	0	1	5	1	3	0	0	
Unit	1 : 1	Alchl/Drgs:	0	Speed: 15 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:					
40	107184644	1.893	12/16/2022 16:52	ANGLE	\$ 4200	0	0	0	0	1	1	1	1	0	0	
Unit	1 : 1	Alchl/Drgs:	0	Speed: 20 MPH Dir: W		Veh Mnvr/Ped Actn:				8	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 20 MPH Dir: E		Veh Mnvr/Ped Actn:				4	Obj Strk:					
41	107226797	1.921	01/25/2023 13:22	REAR END, SLOW OR STOP	\$ 2000	0	0	0	0	2	1	3	1	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 40 MPH Dir: E		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 5	Alchl/Drgs:	0	Speed: 40 MPH Dir: E		Veh Mnvr/Ped Actn:				11	Obj Strk:					
42	107049614	1.922	08/16/2022 16:49	ANGLE	\$ 7000	0	0	0	0	1	1	2	1	0	13	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 10 MPH Dir: W		Veh Mnvr/Ped Actn:				8	Obj Strk:					
Unit	2 : 5	Alchl/Drgs:	0	Speed: 30 MPH Dir: E		Veh Mnvr/Ped Actn:				4	Obj Strk:					
43	106645941	1.927	07/29/2021 17:59	LEFT TURN, DIFFERENT ROADWAYS	\$ 10000	0	0	0	1	1	1	1	1	0	13	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 25 MPH Dir: W		Veh Mnvr/Ped Actn:				8	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 35 MPH Dir: E		Veh Mnvr/Ped Actn:				4	Obj Strk:					
44	106552875	1.929	04/22/2021 17:52	ANGLE	\$ 5000	0	0	0	0	1	1	1	3	0	13	1
Unit	1 : 4	Alchl/Drgs:	0	Speed: 20 MPH Dir: S		Veh Mnvr/Ped Actn:				8	Obj Strk:					
Unit	2 : 2	Alchl/Drgs:	0	Speed: 45 MPH Dir: E		Veh Mnvr/Ped Actn:				4	Obj Strk:					

North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
Strip Analysis Report

Acc No	Crash ID	Milepost	Date	Accident Type	Total Damage	Injuries				Condition			Road		Trfc Ctl	
						F	A	B	C	R	L	W	Ch	Ci	Dv	Op
45	107140194	1.929	11/10/2022 13:54	ANGLE	\$ 30000	0	0	1	0	2	1	3	1	0	0	
Unit	1 : 5	Alchl/Drgs:	0	Speed: 15 MPH Dir: W		Veh Mnvr/Ped Actn: 8				Obj Strk:						
Unit	2 : 1	Alchl/Drgs:	0	Speed: 45 MPH Dir: E		Veh Mnvr/Ped Actn: 4				Obj Strk:						
46	107154850	1.929	11/18/2022 08:44	RIGHT TURN, SAME ROADWAY	\$ 12000	0	0	0	0	1	1	1	1	0	0	
Unit	1 : 1	Alchl/Drgs:	0	Speed: 35 MPH Dir: SE		Veh Mnvr/Ped Actn: 7				Obj Strk:						
Unit	2 : 1	Alchl/Drgs:	0	Speed: 45 MPH Dir: SE		Veh Mnvr/Ped Actn: 4				Obj Strk:						
47	107202060	1.929	01/03/2023 18:34	ANGLE	\$ 5500	0	0	0	0	1	5	1	1	0	0	
Unit	1 : 2	Alchl/Drgs:	0	Speed: 1 MPH Dir: E		Veh Mnvr/Ped Actn: 7				Obj Strk:						
Unit	2 : 4	Alchl/Drgs:	0	Speed: 40 MPH Dir: E		Veh Mnvr/Ped Actn: 4				Obj Strk:						
48	106970565	1.931	05/25/2022 14:30	REAR END, SLOW OR STOP	\$ 9000	0	0	0	0	1	1	1	2	0	13	1
Unit	1 : 4	Alchl/Drgs:	0	Speed: 45 MPH Dir: E		Veh Mnvr/Ped Actn: 4				Obj Strk:						
Unit	2 : 2	Alchl/Drgs:	0	Speed: 45 MPH Dir: E		Veh Mnvr/Ped Actn: 1				Obj Strk:						
49	106866952	1.934	02/16/2022 18:40	LEFT TURN, SAME ROADWAY	\$ 10000	0	0	0	0	1	4	1	1	0	0	
Unit	1 : 1	Alchl/Drgs:	0	Speed: 10 MPH Dir: W		Veh Mnvr/Ped Actn: 8				Obj Strk:						
Unit	2 : 4	Alchl/Drgs:	0	Speed: 45 MPH Dir: E		Veh Mnvr/Ped Actn: 4				Obj Strk:						
50	106703959	1.971	09/21/2021 17:10	REAR END, SLOW OR STOP	\$ 4000	0	0	0	0	1	1	1	1	0	0	
Unit	1 : 1	Alchl/Drgs:	0	Speed: 35 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:						
51	106401773	1.977	11/11/2020 15:36	SIDESWIPE, SAME DIRECTION	\$ 2000	0	0	0	0	1	1	2	2	0	0	
Unit	1 : 4	Alchl/Drgs:	0	Speed: 15 MPH Dir: E		Veh Mnvr/Ped Actn: 5				Obj Strk:						
Unit	2 : 1	Alchl/Drgs:	0	Speed: 40 MPH Dir: E		Veh Mnvr/Ped Actn: 4				Obj Strk:						
52	106811630	1.981	12/21/2021 19:00	REAR END, SLOW OR STOP	\$ 3000	0	0	0	0	2	1	1	2	0	0	
Unit	1 : 1	Alchl/Drgs:	0	Speed: 20 MPH Dir: E		Veh Mnvr/Ped Actn: 4				Obj Strk:						
Unit	2 : 5	Alchl/Drgs:	0	Speed: 15 MPH Dir: E		Veh Mnvr/Ped Actn: 4				Obj Strk:						
Unit	3 : 1	Alchl/Drgs:	0	Speed: 0 MPH Dir: E		Veh Mnvr/Ped Actn: 1				Obj Strk:						
53	106861132	1.982	02/11/2022 14:46	REAR END, SLOW OR STOP	\$ 3500	0	0	0	0	1	1	1	4	0	12	1
Unit	1 : 4	Alchl/Drgs:	0	Speed: 10 MPH Dir: E		Veh Mnvr/Ped Actn: 5				Obj Strk:						
Unit	2 : 1	Alchl/Drgs:	0	Speed: 10 MPH Dir: E		Veh Mnvr/Ped Actn: 4				Obj Strk:						

North Carolina Department of Transportation
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Strip Analysis Report

Acc No	Crash ID	Milepost	Date	Accident Type	Total Damage	Injuries				Condition			Road		Trfc Ctl	
						F	A	B	C	R	L	W	Ch	Ci	Dv	Op
54	106955074	1.986	05/13/2022 14:39	REAR END, SLOW OR STOP	\$ 5000	0	0	0	0	1	1	1	3	0	0	
Unit	1 : 1	Alchl/Drugs: 0	Speed: 25 MPH	Dir: E		Veh Mnvr/Ped Actn: 4				Obj Strk:						
Unit	2 : 1	Alchl/Drugs: 0	Speed: 0 MPH	Dir: E		Veh Mnvr/Ped Actn: 1				Obj Strk:						
55	106561797	1.998	04/28/2021 17:46	REAR END, SLOW OR STOP	\$ 3000	0	0	0	0	1	1	1	1	0	14	1
Unit	1 : 1	Alchl/Drugs: 0	Speed: 35 MPH	Dir: N		Veh Mnvr/Ped Actn: 9				Obj Strk:						
Unit	2 : 2	Alchl/Drugs: 0	Speed: 45 MPH	Dir: N		Veh Mnvr/Ped Actn: 4				Obj Strk:						
56	106650046	1.998	08/02/2021 17:26	LEFT TURN, SAME ROADWAY	\$ 2100	0	0	0	0	1	1	1	3	0	13	1
Unit	1 : 12	Alchl/Drugs: 0	Speed: 10 MPH	Dir: W		Veh Mnvr/Ped Actn: 8				Obj Strk:						
Unit	2 : 1	Alchl/Drugs: 0	Speed: 0 MPH	Dir: E		Veh Mnvr/Ped Actn: 1				Obj Strk:						
57	106775289	1.998	11/20/2021 09:41	REAR END, SLOW OR STOP	\$ 4000	0	0	0	0	1	1	1	1	0	13	
Unit	1 : 4	Alchl/Drugs: 0	Speed: 15 MPH	Dir: W		Veh Mnvr/Ped Actn: 4				Obj Strk:						
Unit	2 : 2	Alchl/Drugs: 0	Speed: 0 MPH	Dir: W		Veh Mnvr/Ped Actn: 1				Obj Strk:						
58	106866955	1.998	02/20/2022 13:27	REAR END, SLOW OR STOP	\$ 8000	0	0	0	0	1	1	1	5	0	0	
Unit	1 : 2	Alchl/Drugs: 0	Speed: 45 MPH	Dir: W		Veh Mnvr/Ped Actn: 11				Obj Strk:						
Unit	2 : 2	Alchl/Drugs: 0	Speed: 35 MPH	Dir: W		Veh Mnvr/Ped Actn: 11				Obj Strk:						
Unit	3 : 32	Alchl/Drugs: 7	Speed: 0 MPH	Dir: W		Veh Mnvr/Ped Actn: 11				Obj Strk:						
59	106970567	1.998	05/27/2022 13:48	LEFT TURN, DIFFERENT ROADWAYS	\$ 1500	0	0	0	0	1	1	1	1	0	3	1
Unit	1 : 2	Alchl/Drugs: 0	Speed: 10 MPH	Dir: N		Veh Mnvr/Ped Actn: 8				Obj Strk:						
Unit	2 : 4	Alchl/Drugs: 0	Speed: 45 MPH	Dir: E		Veh Mnvr/Ped Actn: 4				Obj Strk:						
60	107090172	1.998	09/19/2022 17:07	REAR END, SLOW OR STOP	\$ 1000	0	0	0	0	1	1	1	2	0	3	1
Unit	1 : 5	Alchl/Drugs: 0	Speed: 0 MPH	Dir: E		Veh Mnvr/Ped Actn: 3				Obj Strk:						
Unit	2 : 4	Alchl/Drugs: 0	Speed: 0 MPH	Dir: E		Veh Mnvr/Ped Actn: 1				Obj Strk:						
61	107184641	1.998	12/16/2022 18:47	REAR END, SLOW OR STOP	\$ 400	0	0	0	0	1	1	1	1	0	0	
Unit	1 : 32	Alchl/Drugs: 7	Speed: 20 MPH	Dir: E		Veh Mnvr/Ped Actn: 4				Obj Strk:						
Unit	2 : 1	Alchl/Drugs: 0	Speed: 0 MPH	Dir: E		Veh Mnvr/Ped Actn: 4				Obj Strk:						

**North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
Strip Analysis Report**

Acc No	Crash ID	Milepost	Date	Accident Type	Total 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/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
Strip Analysis Report

Summary Statistics

High Level Crash Summary

Crash Type	Number of Crashes	Percent of Total
Total Crashes	61	100.00
Fatal Crashes	0	0.00
Non-Fatal Injury Crashes	10	16.39
Total Injury Crashes	10	16.39
Property Damage Only Crashes	51	83.61
Night Crashes	11	18.03
Wet Crashes	11	18.03
Alcohol/Drugs Involvement Crashes	3	4.92

Crash Severity Summary

Crash Type	Number of Crashes	Percent of Total
Total Crashes	61	100.00
Fatal Crashes	0	0.00
Class A Crashes	0	0.00
Class B Crashes	5	8.20
Class C Crashes	5	8.20
Property Damage Only Crashes	51	83.61

Vehicle Exposure Statistics

Annual ADT = 6900

Total Length = 0.605 (Miles)

0.974 (Kilometers)

Total Vehicle Exposure = 4.58 (MVMT)

7.36 (MVKMT)

Crash Rate	Crashes Per 100 Million Vehicle Miles	Crashes Per 100 Million Vehicle Kilometers
Total Crash Rate	1333.26	828.45
Fatal Crash Rate	0.00	0.00
Non Fatal Crash Rate	218.57	135.81
Night Crash Rate	240.42	149.39
Wet Crash Rate	240.42	149.39
EPDO Rate	2950.66	1833.45

**North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
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Miscellaneous Statistics

Severity Index =	2.21
EPDO Crash Index =	135.00
Estimated Property Damage Total = \$	315250.00

Accident Type Summary

Accident Type	Number of Crashes	Percent of Total
ANGLE	12	19.67
ANIMAL	1	1.64
FIXED OBJECT	1	1.64
LEFT TURN, DIFFERENT ROADWAYS	4	6.56
LEFT TURN, SAME ROADWAY	3	4.92
RAN OFF ROAD - LEFT	1	1.64
RAN OFF ROAD - RIGHT	1	1.64
REAR END, SLOW OR STOP	31	50.82
RIGHT TURN, SAME ROADWAY	1	1.64
SIDESWIPE, OPPOSITE DIRECTION	3	4.92
SIDESWIPE, SAME DIRECTION	3	4.92

Injury Summary

Injury Type	Number of Injuries	Percent of Total
Fatal Injuries	0	0.00
Class A Injuries	0	0.00
Class B Injuries	6	50.00
Class C Injuries	6	50.00
Total Non-Fatal Injuries	12	100.00
Total Injuries	12	100.00

**North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
Strip Analysis Report**

Monthly Summary

Month	Number of Crashes	Percent of Total
Jan	6	9.84
Feb	3	4.92
Mar	1	1.64
Apr	4	6.56
May	9	14.75
Jun	4	6.56
Jul	4	6.56
Aug	4	6.56
Sep	2	3.28
Oct	4	6.56
Nov	11	18.03
Dec	9	14.75

Daily Summary

Day	Number of Crashes	Percent of Total
Mon	10	16.39
Tue	10	16.39
Wed	12	19.67
Thu	6	9.84
Fri	9	14.75
Sat	11	18.03
Sun	3	4.92

**North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
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Hourly Summary

Hour	Number of Crashes	Percent of Total
0000-0059	0	0.00
0100-0159	0	0.00
0200-0259	0	0.00
0300-0359	1	1.64
0400-0459	0	0.00
0500-0559	0	0.00
0600-0659	0	0.00
0700-0759	3	4.92
0800-0859	1	1.64
0900-0959	4	6.56
1000-1059	0	0.00
1100-1159	3	4.92
1200-1259	2	3.28
1300-1359	7	11.48
1400-1459	6	9.84
1500-1559	4	6.56
1600-1659	6	9.84
1700-1759	10	16.39
1800-1859	5	8.20
1900-1959	7	11.48
2000-2059	0	0.00
2100-2159	1	1.64
2200-2259	1	1.64
2300-2359	0	0.00

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Light and Road Conditions Summary

Condition	Dry	Wet	Other	Total
Day	41	9	0	50
Dark	9	2	0	11
Other	0	0	0	0
Total	50	11	0	61

Object Struck Summary

Object Type	Times Struck	Percent of Total
ANIMAL	1	16.67
DITCH	2	33.33
MAILBOX	1	16.67
OFFICIAL HIGHWAY SIGN NON-BREAKAWAY	1	16.67
PARKED MOTOR VEHICLE	1	16.67

Vehicle Type Summary

Vehicle Type	Number Involved	Percent of Total
PASSENGER CAR	65	52.42
PICKUP	14	11.29
SINGLE UNIT TRUCK (2-AXLE, 6-TIRE)	1	0.81
SPORT UTILITY	25	20.16
TRACTOR/SEMI-TRAILER	1	0.81
TRUCK/TRAILER	2	1.61
UNKNOWN	6	4.84
VAN	10	8.06

North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
Strip Analysis Report

Yearly Totals Summary

Accident Totals

Year	Total Accidents	Fatal Accidents	Injury Accidents	Property Damage Only Accidents
2020	9	0	2	7
2021	21	0	4	17
2022	26	0	4	22
2023	5	0	0	5
Total	61	0	10	51

Injury Totals

Year	Fatal Injuries	Class A, B, or C Injuries
2020	0	3
2021	0	5
2022	0	4
2023	0	0
Total	0	12

Miscellaneous Totals

Year	Property Damage	EPDO Index
2020	\$ 36650	23.80
2021	\$ 97100	50.60
2022	\$ 156000	55.60
2023	\$ 25500	5.00
Total	\$ 315250	135.00

Type of Accident Totals

Year	Left Turn	Right Turn	Rear End	Run Off Road & Fixed Object	Angle	Side Swipe	Other
2020	0	0	4	1	1	3	0
2021	3	0	11	2	3	1	1
2022	3	1	13	0	7	2	0
2023	1	0	3	0	1	0	0
Total	7	1	31	3	12	6	1

**North Carolina Department of Transportation
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Strip Analysis Report**

Strip Diagram

Features	Milepost	Crash IDs
SR 1524 STEVENS MILL	1.39	106261149 106309267 106566330 106614460
		106787057 106975026 107132466 107182171
		107200610
ML-HEMBY BRIDGE ML-STALLINGS	1.40	106744621 106470488
	1.41	107166554
	1.42	
	1.43	106437831
	1.44	106725278
	1.45	
	1.46	107184642 106916599
	1.47	
	1.48	
	1.49	107229338 107130095
	1.50	106654665 106999865
	1.51	
	1.52	
	1.53	
	1.54	
	1.55	
	1.56	106800280
	1.57	
	1.58	
	1.59	
ML-STALLINGS	1.60	106738554
	1.61	
	1.62	
	1.63	
	1.64	
	1.65	
	1.66	106787055
	1.67	
	1.68	107007073
	1.69	
	1.70	
	1.71	
	1.72	
	1.73	
	1.74	106238577 106995164 107165052
	1.75	106236642
	1.76	
	1.77	
	1.78	106289041

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Features	Milepost	Crash IDs
ML-STALLINGS	1.79	106399483
	1.80	106778208 107213227 106970568 107098146
	1.81	106596784
	1.82	106919704
	1.83	
	1.84	106506471
	1.85	106577385
	1.86	106407688
	1.87	
	1.88	
	1.89	107184644
	1.90	
	1.91	
	1.92	107226797 107049614
	1.93	106645941 106552875 107140194 107154850 107202060 106970565 106866952
	1.94	
	1.95	
	1.96	
	1.97	106703959
	1.98	106401773 106811630 106861132
SR 5230 SR 5231 MARSHALL HOOKS BOYD FUNDERBURK	1.99	106955074
CL-MECKLENBURG	2.00	106561797 106650046 106775289 106866955 106970567 107090172 107184641

**North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
Strip Analysis Report**

Study Criteria

Study Name	Log No.	PH No.	TIP No.	K/A Cf.	B/C Cf.	ADT	ADT Route	
IDLEWILD2023UNION				76.8	8.4	6900		
Request Date	Courier Service	Phone No.	Ext.	Fax No.				
County		Municipality						
Name	Code	Div.	Name	Code	Y-Line Ft.	Begin Date	End Date	Years
UNION	90	10	All and Rural		0	4/1/2020	4/1/2023	3.00
Location Text			Requestor					

Included Accidents	Old MP	New MP	Type
106970568	999.999	1.797	I
107140194	999.999	1.929	I
107154850	999.999	1.929	I
107202060	999.999	1.929	I

Excluded Accidents
106578827
106604036
107122187
107226798
107280403

Fiche Roads

Name	Code
SR 1582	40001582
IDLEWILD	50014855

Strip Road

Name	Code	Begin MP	End MP	Miles	Kilometers
SR 1582	40001582	1.393	1.998	0.605	0.974

APPENDIX P

Pedestrian and Bicyclist Levels of Service

Bicycle Scoring Sheet

Idlewild Road and Stallings Road/Hooks Road - Existing/Future Conditions

Parameters	Approach Crossing			
	Northbound	Eastbound	Southbound	Westbound
1a. Signal Phasing/ timing features	No leading Bicycle Phase	No leading Bicycle Phase	No leading Bicycle Phase	No leading Bicycle Phase
Score	0	0	0	0
1b. Signal Timing	Green and Yellow clearance time based on vehicle speeds	Green and Yellow clearance time based on vehicle speeds	Green and Yellow clearance time based on vehicle speeds	Green and Yellow clearance time based on vehicle speeds
Score	0	0	0	0
1c. Stop Bar Location	Shared stop bar	Shared stop bar	Shared stop bar	Shared stop bar
Score	0	0	0	0
1d. Opposing Vehicle Left-Turn Phases	Protected/Prohibited	Permissive	Permissive	Permissive
Score	12	6	6	6
2. Bike Space on Street	Ride in vehicle travel lane approach/departure	Ride in vehicle travel lane approach/departure	Ride in vehicle travel lane approach/departure	Ride in vehicle travel lane approach/departure
Score	0	0	0	0
3. Right-turn traffic conflict	No separate vehicle right turn lane	No separate vehicle right turn lane	No separate vehicle right turn lane	No separate vehicle right turn lane
Score	0	0	0	0
4. Speed of intersection approach	45 mph	45 mph	35 mph	45 mph
Score	-15	-15	0	-15
5. Right turn on red	Prohibited	Prohibited	Prohibited	Prohibited
Score	5	5	5	5
6. Intersection Crossing Distance	48 ft	60 ft	24 ft	60 ft
Score	5	5	10	5
Approach Total	7	1	21	1
Approach LOS	F	F	E	F
Avg Intersection Score	8			
Avg Intersection LOS	F			

LOS	Total Points	LOS	Total Points
A	>84	D	35-51
B	68-83	E	18-34
C	52-67	F	<18

Pedestrian Scoring Sheet

Idlewild Road & Stallings Road/Hooks Road – Future Conditions

Parameters	Approach Crossing			
	Northbound	Eastbound	Southbound	Westbound
1. Pedestrian Crossing Distance	4 lanes	5 lanes	2 lanes	5 lanes
Score	42	30	60	30
2a. Adjacent LT Traffic	Protected/Prohibited, no ped phase, dual lefts	No protected left turn phase, no ped phase	No protected left turn phase, no ped phase	No protected left turn phase, no ped phase
Score	-5	0	0	0
2b. Right Turn Traffic	Exclusive right turn lane with over lap, no ped phase	Exclusive right turn lane with no ped phase	Shared thru/right	Shared thru/right
Score	-10	0	0	0
2c. Pedestrian Signal Display	No ped display	No ped display	No ped display	No ped display
Score	--	--	--	--
3. Corner Radius	25'	25'	25'	25'
Score	5	5	5	5
4. Right Turns on Red	Prohibited	Prohibited	Prohibited	Prohibited
Score	5	5	5	5
5. Crosswalk	No Marked Crosswalk	No Marked Crosswalk	No Marked Crosswalk	No Marked Crosswalk
Score	0	0	0	0
6. Traffic Flow Direction	Pedestrian crossing a two way street	Pedestrian crossing a two way street	Pedestrian crossing a two way street	Pedestrian crossing a two way street
Score	0	0	0	0
Approach Total	37	40	70	40
Approach LOS	D	D	B	D
Avg Intersection Score	47			
Avg Intersection LOS	D			
LOS	Total Points	LOS	Total Points	
A	>84	D	35-51	
B	68-83	E	18-34	
C	52-67	F	<18	

Bicycle Scoring Sheet

Idlewild Road and I-485 Inner Ramps Existing/Future Conditions

Parameters	Approach Crossing			
	Northbound	Eastbound	Southbound	Westbound
1a. Signal Phasing/ timing features	N/A - highway	No leading Bicycle Phase	N/A - highway	No leading Bicycle Phase
Score	--	0	--	0
1b. Signal Timing	N/A - highway	Green and Yellow clearance time based on vehicle speeds	N/A - highway	Green and Yellow clearance time based on vehicle speeds
Score	--	0	--	0
1c. Stop Bar Location	N/A - highway	Shared stop bar	N/A - highway	Shared stop bar
Score	--	0	--	0
1d. Opposing Vehicle Left-Turn Phases	N/A - highway	No conflict	N/A - highway	Protected/prohibited
Score	--	15	--	12
2. Bike Space on Street	N/A - highway	Ride in vehicle travel lane approach/departure	N/A - highway	Ride in vehicle travel lane approach/departure
Score	0	0	0	0
3. Right-turn traffic conflict	N/A - highway	No sperate right turn lane	N/A - highway	No conflict
Score	--	0	--	15
4. Speed of intersection approach	N/A - highway	45 mph	N/A - highway	45 mph
Score	--	-15	--	-15
5. Right turn on red	N/A - highway	Allowed	N/A - highway	Allowed
Score	--	0	--	0
6. Intersection Crossing Distance	N/A - highway	77'	N/A - highway	60'
Score	--	0	--	5
Approach Total	N/A	0	N/A	17
Approach LOS		F		F
Avg Intersection Score	9			
Avg Intersection LOS	F			
LOS	Total Points	LOS	Total Points	
A	>84	D	35-51	
B	68-83	E	18-34	
C	52-67	F	<18	

Pedestrian Scoring Sheet

Idlewild Road & I-485 Inner Ramp – Existing Conditions

Parameters	Approach Crossing			
	Northbound	Eastbound	Southbound	Westbound
1. Pedestrian Crossing Distance	1 Lane – less than 12 ft	77 ft or more with median	2 lanes – no median	5 lanes – no median
Score	60	25	60	30
2a. Adjacent LT Traffic	Protected/Permissive phase with No pedestrian phase	No left turn conflict	No left turn conflict	Protected/Prohibited phase with No pedestrian phase
Score	-5			-2
2b. Right Turn Traffic	No Conflict (one way street) – See Parameter 6	Exclusive right turn lane. No overlap, no ped phase	Exclusive right turn lane. No overlap, no ped phase	No Conflict (one way street) – See Parameter 6
Score	--	0	0	--
2c. Pedestrian Signal Display	No ped phase	No ped phase	No ped phase	No ped phase
Score	--	--	--	--
3. Corner Radius	70'	45'	25'	50'
Score	-5	0	5	0
4. Right Turns on Red	No RTOR one-way street	Allowed	No conflict one way street	allowed
Score	5		5	
5. Crosswalk	No Marked Crosswalk	No Marked Crosswalk	No Marked Crosswalk	No Marked Crosswalk
Score	0	0	0	0
6. Traffic Flow Direction	Departure lane crossing one way street (LT protected)	Intersect with one-way street (no LT conflict)	Approach leg crossing of one-way street (no LT conflicts)	Intersect with one-way street (no RT conflict)
Score	-3	15	30	15
Approach Total	52	40	100	43
Approach LOS	C	D	A	D
Avg Intersection Score	59			
Avg Intersection LOS	C			
LOS	Total Points	LOS	Total Points	
A	>84	D	35-51	
B	68-83	E	18-34	
C	52-67	F	<18	

Pedestrian Scoring Sheet

Idlewild Road & I-485 Inner Ramp – Future Conditions

Parameters	Approach Crossing			
	Northbound	Eastbound	Southbound	Westbound
2. Pedestrian Crossing Distance	1 Lane – less than 12 ft	77 ft or more with median	3 lanes – no median	5 lanes – no median
Score	60	25	53	30
2a. Adjacent LT Traffic	Protected/prohibited phase No pedestrian phase	No left turn conflict	No left turn conflict	Protected/Prohibited phase with No pedestrian phase
Score	-2			-2
2b. Right Turn Traffic	No Conflict (one way street) – See Parameter 6	Exclusive right turn lane. No overlap, no ped phase	Dual right turn lanes. No overlap, no ped phase	No Conflict (one way street) – See Parameter 6
Score	--	0	-10	--
2c. Pedestrian Signal Display	No ped phase	No ped phase	No ped phase	No ped phase
Score	--	--	--	--
7. Corner Radius	70'	45'	25'	50'
Score	-5	0	5	0
8. Right Turns on Red	No RTOR one-way street	Prohibited	No conflict one way street	prohibited
Score	5	5	5	5
9. Crosswalk	No Marked Crosswalk	No Marked Crosswalk	No Marked Crosswalk	No Marked Crosswalk
Score	0	0	0	0
10. Traffic Flow Direction	Departure lane crossing one way street (LT protected)	Intersect with one-way street (no LT conflict)	Approach leg crossing of one-way street (no LT conflicts)	Intersect with one-way street (no RT conflict)
Score	-3	15	30	15
Approach Total	55	45	83	48
Approach LOS	C	D	B	D
Avg Intersection Score	58			
Avg Intersection LOS	C			
LOS	Total Points	LOS	Total Points	
A	>84	D	35-51	
B	68-83	E	18-34	
C	52-67	F	<18	

Bicycle Scoring Sheet

Idlewild Road and I-485 Outer Ramps Existing/Future Conditions

Parameters	Approach Crossing			
	Northbound	Eastbound	Southbound	Westbound
1a. Signal Phasing/ timing features	N/A - highway	No leading Bicycle Phase	N/A - highway	No leading Bicycle Phase
Score	--	0	--	0
1b. Signal Timing	N/A - highway	Green and Yellow clearance time based on vehicle speeds	N/A - highway	Green and Yellow clearance time based on vehicle speeds
Score	--	0	--	0
1c. Stop Bar Location	N/A - highway	Shared stop bar	N/A - highway	Shared stop bar
Score	--	0	--	0
1d. Opposing Vehicle Left-Turn Phases	N/A - highway	Protected/prohibited	N/A - highway	No Conflict
Score	--	12	--	15
2. Bike Space on Street	N/A - highway	Ride in vehicle travel lane approach/departure	N/A - highway	Ride in vehicle travel lane approach/departure
Score	0	0	0	0
3. Right-turn traffic conflict	N/A - highway	No conflict	N/A - highway	No Separate right turn lane
Score	--	15	--	0
4. Speed of intersection approach	N/A - highway	45 mph	N/A - highway	45 mph
Score	--	-15	--	-15
5. Right turn on red	N/A - highway	Allowed	N/A - highway	Allowed
Score	--	0	--	0
6. Intersection Crossing Distance	N/A - highway	64'	N/A - highway	80'
Score	--	0	--	0
Approach Total	N/A	12	N/A	0
Approach LOS		F		F
Avg Intersection Score	6			
Avg Intersection LOS	F			
LOS	Total Points	LOS	Total Points	
A	>84	D	35-51	
B	68-83	E	18-34	
C	52-67	F	<18	

Pedestrian Scoring Sheet

Idlewild Road & I-485 Outer Ramps – Existing Conditions

Parameters	Approach Crossing			
	Northbound	Eastbound	Southbound	Westbound
1. Pedestrian Crossing Distance	66' 3 lanes – no median	64 ft or more with no median	1 Lane – less than 12 ft	80' 5 lanes – with median
Score	15	30	60	25
2a. Adjacent LT Traffic	No left turn conflict	Protected/Prohibited phase with No pedestrian phase	Protected/Permissive phase with No pedestrian phase	No Left Turn Conflict
Score	--	-2	-5	0
2b. Right Turn Traffic	Dual right turn lanes. No overlap, no ped phase	No Conflict (one way street) – See Parameter 6	No Conflict (one way street) – See Parameter 6	Exclusive right turn lane. No overlap, no ped phase
Score	-10	--	--	0
2c. Pedestrian Signal Display	No ped phase	No ped phase	No ped phase	No ped phase
Score	--	--	--	--
3. Corner Radius	80'	15'	40'	60'
Score	-5	11	0	-5
4. Right Turns on Red	allowed	No RTOR one-way street	No conflict one way street	allowed
Score	0	5	5	0
5. Crosswalk	No Marked Crosswalk	No Marked Crosswalk	No Marked Crosswalk	No Marked Crosswalk
Score	0	0	0	0
6. Traffic Flow Direction	Approach leg crossing of one-way street (no LT conflicts)	Intersect with one-way street (no RT conflict)	Departure lane crossing one way street (LT protected)	Intersect with one-way street (no LT conflict)
Score	30	15	-3	15
Approach Total	30	59	57	35
Approach LOS	E	C	C	D
Avg Intersection Score	45			
Avg Intersection LOS	D			
LOS	Total Points	LOS	Total Points	
A	>84	D	35-51	
B	68-83	E	18-34	
C	52-67	F	<18	

Pedestrian Scoring Sheet

Idlewild Road & I-485 Outer Ramps – Future Conditions

Parameters	Approach Crossing			
	Northbound	Eastbound	Southbound	Westbound
2. Pedestrian Crossing Distance	66' 3 lanes – no median	64 ft or more with no median	1 Lane – less than 12 ft	80' 5 lanes – with median
Score	15	30	60	25
2a. Adjacent LT Traffic	No left turn conflict	Protected/Prohibited phase with No pedestrian phase	Protected/prohibited phase No pedestrian phase	No Left Turn Conflict
Score	--	-2	-2	0
2b. Right Turn Traffic	Dual right turn lanes. No overlap, no ped phase	No Conflict (one way street) – See Parameter 6	No Conflict (one way street) – See Parameter 6	Exclusive right turn lane. No overlap, no ped phase
Score	-10	--	--	0
2c. Pedestrian Signal Display	No ped phase	No ped phase	No ped phase	No ped phase
Score	--	--	--	--
7. Corner Radius	80'	15'	40'	60'
Score	-5	11	0	-5
8. Right Turns on Red	Prohibited	No RTOR one-way street	No conflict one way street	prohibited
Score	5	5	5	5
9. Crosswalk	No Marked Crosswalk	No Marked Crosswalk	No Marked Crosswalk	No Marked Crosswalk
Score	0	0	0	0
10. Traffic Flow Direction	Approach leg crossing of one-way street (no LT conflicts)	Intersect with one-way street (no RT conflict)	Departure lane crossing one way street (LT protected)	Intersect with one-way street (no LT conflict)
Score	30	15	-3	15
Approach Total	35	59	60	40
Approach LOS	D	C	C	D
Avg Intersection Score	49			
Avg Intersection LOS	D			
LOS	Total Points	LOS	Total Points	
A	>84	D	35-51	
B	68-83	E	18-34	
C	52-67	F	<18	

Bicycle Scoring Sheet

Idlewild Road & Rite Aid Driveway Existing Conditions

Parameters	Approach Crossing			
	Northbound	Eastbound	Southbound	Westbound
1a. Signal Phasing/ timing features	No leading Bicycle Phase	No leading Bicycle Phase		No leading Bicycle Phase
Score	0	0		0
1b. Signal Timing	Green and Yellow clearance time based on vehicle speeds	Green and Yellow clearance time based on vehicle speeds		Green and Yellow clearance time based on vehicle speeds
Score	0	0		0
1c. Stop Bar Location	Shared stop bar	Shared stop bar		Shared stop bar
Score	0	0		0
1d. Opposing Vehicle Left-Turn Phases	Leading protected permissive	Protected		No conflict
Score	6	12		15
2. Bike Space on Street	Ride in vehicle travel lane approach/departure	Ride in vehicle travel lane approach/departure		Ride in vehicle travel lane approach/departure
Score	0	0		0
3. Right-turn traffic conflict	No sperate right turn lane	No sperate right turn lane		No conflict
Score	0	0		15
4. Speed of intersection approach	25 mph	45 mph		45 mph
Score	15	-15		-15
5. Right turn on red	Allowed	Allowed		Allowed
Score	0	0		0
6. Intersection Crossing Distance	2 lanes	50 ft		48 ft
Score	10	5		5
Approach Total	31	2		20
Approach LOS	E	F		E
Avg Intersection Score	18			
Avg Intersection LOS	E			
LOS	Total Points	LOS	Total Points	
A	>84	D	35-51	
B	68-83	E	18-34	
C	52-67	F	<18	

Bicycle Scoring Sheet

Idlewild Road & Rite Aid Driveway Future Conditions

Parameters	Approach Crossing			
	Northbound	Eastbound	Southbound	Westbound
1a. Signal Phasing/ timing features	No leading Bicycle Phase	No leading Bicycle Phase	No leading Bicycle Phase	No leading Bicycle Phase
Score	0	0	0	0
1b. Signal Timing	Green and Yellow clearance time based on vehicle speeds	Green and Yellow clearance time based on vehicle speeds	Green and Yellow clearance time based on vehicle speeds	Green and Yellow clearance time based on vehicle speeds
Score	0	0	0	0
1c. Stop Bar Location	Shared stop bar	Shared stop bar	Shared stop bar	Shared stop bar
Score	0	0	0	0
1d. Opposing Vehicle Left-Turn Phases	Protected	Protected	Protected	Protected
Score	12	12	12	12
2. Bike Space on Street	Ride in vehicle travel lane approach/departure	Ride in vehicle travel lane approach/departure	Ride in vehicle travel lane approach/departure	Ride in vehicle travel lane approach/departure
Score	0	0	0	0
3. Right-turn traffic conflict	No sperate right turn lane	No sperate right turn lane	No sperate right turn lane	No sperate right turn lane
Score	0	0	0	0
4. Speed of intersection approach	25 mph	45 mph	Less than 30mph	45 mph
Score	15	-15	15	-15
5. Right turn on red	Prohibited	Prohibited	Prohibited	Prohibited
Score	5	5	5	5
6. Intersection Crossing Distance	3 lanes	72 ft	72 ft	72 ft
Score	10	0	0	0
Approach Total	42	2	32	2
Approach LOS	D	F	E	F
Avg Intersection Score	20			
Avg Intersection LOS	E			
LOS	Total Points	LOS	Total Points	
A	>84	D	35-51	
B	68-83	E	18-34	
C	52-67	F	<18	

Pedestrian Scoring Sheet

Idlewild Road & Rite Aid Driveway – Existing Conditions

Parameters	Approach Crossing			
	Northbound	Eastbound	Southbound	Westbound
1. Pedestrian Crossing Distance	2 Lane – less than 30 ft	50 ft or more with no median		48 ft – no median
Score	60	42		42
2a. Adjacent LT Traffic	Protected/Permissive phase with No pedestrian phase	Protected/Permissive phase with No pedestrian phase		No left turn conflict
Score	-5	-5		
2b. Right Turn Traffic	Shared right turn lane with no ped phase	Exclusive right turn lane, no overlap, no ped phase		No Conflict (t intersection) – See Parameter 6
Score	0	0		--
2c. Pedestrian Signal Display	No ped phase	No ped phase		No ped phase
Score	--	--		--
3. Corner Radius	45'	55'		0'
Score	0	-5		11
4. Right Turns on Red	allowed	Allowed		No RTOR
Score				5
5. Crosswalk	No Marked Crosswalk	No Marked Crosswalk		No Marked Crosswalk
Score	0	0		0
6. Traffic Flow Direction	Departure lane crossing one way street (LT protected)	Intersect with one-way street (no RT conflict)		Intersect with one-way street (no LT conflict)
Score	-10	15		15
Approach Total	45	47		73
Approach LOS	D	D		B
Avg Intersection Score	55			
Avg Intersection LOS	C			
LOS	Total Points	LOS	Total Points	
A	>84	D	35-51	
B	68-83	E	18-34	
C	52-67	F	<18	

Pedestrian Scoring Sheet

Idlewild Road & Rite Aid Driveway – Future Conditions

Parameters	Approach Crossing			
	Northbound	Eastbound	Southbound	Westbound
1. Pedestrian Crossing Distance	3 lanes	6 lanes	6 lanes	6 lanes + 12' median
Score	53	15	15	35
2a. Adjacent LT Traffic	Protected/Prohibited Phase, no Ped phase	Protected/Prohibited Phase, no Ped phase	Protected/Prohibited Phase, no Ped phase	Protected/Prohibited Phase, no Ped phase
Score	-2	-2	-2	-2
2b. Right Turn Traffic	Shared thru/right lane	Shared thru/right lane	Exclusive right turn lane, overlap, no ped phase	Exclusive right turn lane, overlap, no ped phase
Score	0	0	-10	-10
2c. Pedestrian Signal Display	No ped phase	No ped phase	No ped phase	No ped phase
Score	--	--	--	--
3. Corner Radius	25'	25'	25'	25'
Score	5	5	5	5
4. Right Turns on Red	Prohibited	Prohibited	Prohibited	Prohibited
Score	5	5	5	5
5. Crosswalk	No Marked Crosswalk	No Marked Crosswalk	No Marked Crosswalk	No Marked Crosswalk
Score	0	0	0	0
6. Traffic Flow Direction	Pedestrian Crossing a two way street	Pedestrian Crossing a two way street	Pedestrian Crossing a two way street	Pedestrian Crossing a two way street
Score	0	0	0	0
Approach Total	61	23	13	33
Approach LOS	C	E	F	E
Avg Intersection Score	33			
Avg Intersection LOS	E			
LOS	Total Points	LOS	Total Points	
A	>84	D	35-51	
B	68-83	E	18-34	
C	52-67	F	<18	

Bicycle Scoring Sheet

Idlewild Road and Stevens Mill Road Existing Conditions

Parameters	Approach Crossing			
	Northbound	Eastbound	Southbound	Westbound
1a. Signal Phasing/ timing features	No leading Bicycle Phase	No leading Bicycle Phase	No leading Bicycle Phase	No leading Bicycle Phase
Score	0	0	0	0
1b. Signal Timing	Green and Yellow clearance time based on vehicle speeds	Green and Yellow clearance time based on vehicle speeds	Green and Yellow clearance time based on vehicle speeds	Green and Yellow clearance time based on vehicle speeds
Score	0	0	0	0
1c. Stop Bar Location	Shared stop bar	Shared stop bar	Shared stop bar	Shared stop bar
Score	0	0	0	0
1d. Opposing Vehicle Left-Turn Phases	Protected/permissive	Protected/permissive	Protected/permissive	Protected/permissive
Score	6	6	6	6
2. Bike Space on Street	Ride in vehicle travel lane approach/departure	Ride in vehicle travel lane approach/departure	Ride in vehicle travel lane approach/departure	Ride in vehicle travel lane approach/departure
Score	0	0	0	0
3. Right-turn traffic conflict	No separate vehicle right turn lane	No separate vehicle right turn lane	No separate vehicle right turn lane	No separate vehicle right turn lane
Score	0	0	0	0
4. Speed of intersection approach	45 mph	45 mph	45 mph	45 mph
Score	-15	-15	-15	-15
5. Right turn on red	Allowed	Allowed	Allowed	Allowed
Score	0	0	0	0
6. Intersection Crossing Distance	40 ft	40 ft	50 ft	40 ft
Score	5	5	5	5
Approach Total	-4	-4	-4	-4
Approach LOS	F	F	F	F
Avg Intersection Score	-4			

Avg Intersection LOS		F	
LOS	Total Points	LOS	Total Points
A	>84	D	35-51
B	68-83	E	18-34
C	52-67	F	<18

Bicycle Scoring Sheet

Idlewild Road and Stevens Mill Road Future Conditions

Parameters	Approach Crossing			
	Northbound	Eastbound	Southbound	Westbound
1a. Signal Phasing/ timing features	No leading Bicycle Phase	No leading Bicycle Phase	No leading Bicycle Phase	No leading Bicycle Phase
Score	0	0	0	0
1b. Signal Timing	Green and Yellow clearance time based on vehicle speeds	Green and Yellow clearance time based on vehicle speeds	Green and Yellow clearance time based on vehicle speeds	Green and Yellow clearance time based on vehicle speeds
Score	0	0	0	0
1c. Stop Bar Location	Shared stop bar	Shared stop bar	Shared stop bar	Shared stop bar
Score	0	0	0	0
1d. Opposing Vehicle Left-Turn Phases	Protected/prohibited	Protected/prohibited	Protected/prohibited	Protected/prohibited
Score	12	12	12	12
2. Bike Space on Street	Ride in vehicle travel lane approach/departure	Ride in vehicle travel lane approach/departure	Ride in vehicle travel lane approach/departure	Ride in vehicle travel lane approach/departure
Score	0	0	0	0
3. Right-turn traffic conflict	No separate vehicle right turn lane	No separate vehicle right turn lane	No separate vehicle right turn lane	No separate vehicle right turn lane
Score	0	0	0	0
4. Speed of intersection approach	45 mph	45 mph	45 mph	45 mph
Score	-15	-15	-15	-15
5. Right turn on red	Prohibited	Prohibited	Prohibited	Prohibited
Score	5	5	5	5
6. Intersection Crossing Distance	48 ft	48 ft	48 ft	48 ft
Score	5	5	5	5
Approach Total	7	7	7	7
Approach LOS	F	F	F	F
Avg Intersection Score	7			

Avg Intersection LOS		F	
LOS	Total Points	LOS	Total Points
A	>84	D	35-51
B	68-83	E	18-34
C	52-67	F	<18

Bicycle Scoring Sheet

Idlewild Road and Stevens Mill Road Future- Improved Conditions

Parameters	Approach Crossing			
	Northbound	Eastbound	Southbound	Westbound
1a. Signal Phasing/ timing features	No leading Bicycle Phase	No leading Bicycle Phase	No leading Bicycle Phase	No leading Bicycle Phase
Score	0	0	0	0
1b. Signal Timing	Green and Yellow clearance time based on vehicle speeds	Green and Yellow clearance time based on vehicle speeds	Green and Yellow clearance time based on vehicle speeds	Green and Yellow clearance time based on vehicle speeds
Score	0	0	0	0
1c. Stop Bar Location	Shared stop bar	Shared stop bar	Shared stop bar	Shared stop bar
Score	0	0	0	0
1d. Opposing Vehicle Left-Turn Phases	Protected/prohibited	Protected/prohibited	Protected/prohibited	Protected/prohibited
Score	12	12	12	12
2. Bike Space on Street	Ride in vehicle travel lane approach/departure	Ride in vehicle travel lane approach/departure	Ride in vehicle travel lane approach/departure	Ride in vehicle travel lane approach/departure
Score	0	0	0	0
3. Right-turn traffic conflict	No separate vehicle right turn lane	No separate vehicle right turn lane	No separate vehicle right turn lane	No separate vehicle right turn lane
Score	0	0	0	0
4. Speed of intersection approach	45 mph	45 mph	45 mph	45 mph
Score	-15	-15	-15	-15
5. Right turn on red	Prohibited	Prohibited	Prohibited	Prohibited
Score	5	5	5	5
6. Intersection Crossing Distance	>60ft	>60ft	>60ft	>60ft
Score	0	0	0	0
Approach Total	2	2	2	2
Approach LOS	F	F	F	F
Avg Intersection Score	2			

Avg Intersection LOS	F		
LOS	Total Points	LOS	Total Points
A	>84	D	35-51
B	68-83	E	18-34
C	52-67	F	<18

Pedestrian Scoring Sheet

Idlewild Road & Stevens Mill Road – Existing Conditions

Parameters	Approach Crossing			
	Northbound	Eastbound	Southbound	Westbound
1. Pedestrian Crossing Distance	3 lanes – 40 ft no median	3 lanes – 40 ft no median	4 lanes – 50 ft no median	3 lanes – 40 ft no median
Score	53	53	42	53
2a. Adjacent LT Traffic	Protected/permissive phase – no ped phase	Protected/permissive phase – no ped phase	Protected/permissive phase – no ped phase	Protected/permissive phase – no ped phase
Score	-5	-5	-5	-5
2b. Right Turn Traffic	Shared thru/right lane	Shared thru/right lane	Exclusive right turn lane, overlap phase, no ped phase	Shared thru/right lane
Score	0	0	-10	0
2c. Pedestrian Signal Display	No ped display	No ped display	No ped display	No ped display
Score	--	--	--	--
3. Corner Radius	25'	35'	40'	50'
Score	5	0	0	0
4. Right Turns on Red	Allowed	Allowed	Allowed	Allowed
Score	0	0	0	0
5. Crosswalk	No Marked Crosswalk	No Marked Crosswalk	No Marked Crosswalk	No Marked Crosswalk
Score	0	0	0	0
6. Traffic Flow Direction	Pedestrian crossing a two way street	Pedestrian crossing a two way street	Pedestrian crossing a two way street	Pedestrian crossing a two way street
Score	0	0	0	0
Approach Total	48	48	30	48
Approach LOS	D	D	E	D
Avg Intersection Score	40			
Avg Intersection LOS	D			
LOS	Total Points	LOS	Total Points	
A	>84	D	35-51	
B	68-83	E	18-34	
C	52-67	F	<18	

Pedestrian Scoring Sheet

Idlewild Road & Stevens Mill Road – Future Conditions

Parameters	Approach Crossing			
	Northbound	Eastbound	Southbound	Westbound
1. Pedestrian Crossing Distance	4 lanes	4 lanes with median	4 lanes	4 lanes with median
Score	42	48	42	48
2a. Adjacent LT Traffic	Protected/prohibited no ped phase	Protected/prohibited no ped phase	Protected/prohibited no ped phase	Protected/prohibited no ped phase
Score	-2	-2	-2	-2
2b. Right Turn Traffic	Exclusive right turn lane, overlap phase, no ped phase	Shared thru/right lane	Exclusive right turn lane, overlap phase, no ped phase	Shared thru/right lane
Score	-10	0	-10	0
2c. Pedestrian Signal Display	No ped display	No ped display	No ped display	No ped display
Score	--	--	--	--
3. Corner Radius	25'	25'	25'	25'
Score	5	5	5	5
4. Right Turns on Red	Prohibited	Prohibited	Prohibited	Prohibited
Score	5	5	5	5
5. Crosswalk	No Marked Crosswalk	No Marked Crosswalk	No Marked Crosswalk	No Marked Crosswalk
Score	0	0	0	0
6. Traffic Flow Direction	Pedestrian crossing a two way street	Pedestrian crossing a two way street	Pedestrian crossing a two way street	Pedestrian crossing a two way street
Score	0	0	0	0
Approach Total	40	56	40	56
Approach LOS	D	C	E	C
Avg Intersection Score	48			
Avg Intersection LOS	D			
LOS	Total Points	LOS	Total Points	
A	>84	D	35-51	
B	68-83	E	18-34	
C	52-67	F	<18	

Pedestrian Scoring Sheet

Idlewild Road & Stevens Mill Road– Future Improved Conditions

Parameters	Approach Crossing			
	Northbound	Eastbound	Southbound	Westbound
1. Pedestrian Crossing Distance	5 lanes with median	5 lanes and median	5 lanes with median	5 lanes and median
Score	43	43	43	43
2a. Adjacent LT Traffic	No LT conflict (See Parameter 6)	No LT conflict (See Parameter 6)	No LT conflict (See Parameter 6)	No LT conflict (See Parameter 6)
Score	--	--	--	--
2b. Right Turn Traffic	Dual Right turn lanes, no ped phase	Exclusive right turn lane, no overlap, no ped phase	Dual Right turn lanes, no ped phase	Exclusive right turn lane, no overlap, no ped phase
Score	-10	0	-10	0
2c. Pedestrian Signal Display	No ped display	No ped display	No ped display	No ped display
Score	--	--	--	--
3. Corner Radius	25'	50'	25'	50'
Score	5	0	5	0
4. Right Turns on Red	Prohibited	Prohibited	Prohibited	Prohibited
Score	5	5	5	5
5. Crosswalk	No Marked Crosswalk	No Marked Crosswalk	No Marked Crosswalk	No Marked Crosswalk
Score	0	0	0	0
6. Traffic Flow Direction	Pedestrian crossing a two way street	Pedestrian crossing a two way street	Pedestrian crossing a two way street	Pedestrian crossing a two way street
Score	0	0	0	0
Approach Total	43	48	43	48
Approach LOS	D	D	D	D
Avg Intersection Score	46			
Avg Intersection LOS	D			
LOS	Total Points	LOS	Total Points	
A	>84	D	35-51	
B	68-83	E	18-34	
C	52-67	F	<18	

Bicycle Scoring Sheet

Stevens Mill Road and Access C Future Conditions

Parameters	Approach Crossing			
	Northbound	Eastbound	Southbound	Westbound
1a. Signal Phasing/ timing features	No leading Bicycle Phase	No leading Bicycle Phase	No leading Bicycle Phase	
Score	0	0	0	
1b. Signal Timing	Green and Yellow clearance time based on vehicle speeds	Green and Yellow clearance time based on vehicle speeds	Green and Yellow clearance time based on vehicle speeds	
Score	0	0	0	
1c. Stop Bar Location	Shared stop bar	Shared stop bar	Shared stop bar	
Score	0	0	0	
1d. Opposing Vehicle Left-Turn Phases	No conflict	Protect/prohibited	Protect/prohibited	
Score	15	12	12	
2. Bike Space on Street	Ride in vehicle travel lane approach/depar ture	Ride in vehicle travel lane approach/departure	Ride in vehicle travel lane approach/departure	
Score	0	0	0	
3. Right-turn traffic conflict	No conflict	No Separate Right turn lane	No Separate Right turn lane	
Score	15	0	0	
4. Speed of intersection approach	45 mph	25 mph	45 mph	
Score	-15	15	-15	
5. Right turn on red	Prohibited	Prohibited	Prohibited	
Score	5	5	5	
6. Intersection Crossing Distance	36'	36'	36'	
Score	10	10	10	
Approach Total	30	42	12	
Approach LOS	E	D	F	
Avg Intersection Score	28			
Avg Intersection LOS	E			
LOS	Total Points		LOS	Total Points
A	>84		D	35-51
B	68-83		E	18-34
C	52-67		F	<18

Pedestrian Scoring Sheet

Stevens Mill Road & Access C – Future Conditions

Parameters	Approach Crossing			
	Northbound	Eastbound	Southbound	Westbound
1. Pedestrian Crossing Distance	3 lanes	3 lanes	3 lanes	
Score	53	53	53	
2a. Adjacent LT Traffic	No left turn conflict (See Parameter 6)	Protected/prohibited, no ped phase	Protected/prohibited, no ped phase	
Score	--	-2	-2	
2b. Right Turn Traffic	No right turn (see parameter 6)	Exclusive right turn – no overlap	Exclusive right turn – no overlap	
Score	--	0	0	
2c. Pedestrian Signal Display	No ped display	No ped display	No ped display	
Score	--	--	--	
3. Corner Radius	25'	25'	25'	
Score	5	5	5	
4. Right Turns on Red	Prohibited	Prohibited	Prohibited	
Score	5	5	5	
5. Crosswalk	No Marked Crosswalk	No Marked Crosswalk	No Marked Crosswalk	
Score	0	0	0	
6. Traffic Flow Direction	Pedestrian crossing a two way street	Pedestrian crossing a two way street	Pedestrian crossing a two way street	
Score	0	0	0	
Approach Total	63	61	61	
Approach LOS	C	C	C	
Avg Intersection Score	62			
Avg Intersection LOS	C			
LOS	Total Points	LOS	Total Points	
A	>84	D	35-51	
B	68-83	E	18-34	
C	52-67	F	<18	