

							Ø2	Ø4
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations				↑↑↑	↵			
Traffic Volume (vph)	0	0	0	1978	143	0		
Future Volume (vph)	0	0	0	1978	143	0		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900		
Storage Length (ft)		0	0		500	0		
Storage Lanes		0	0		0	0		
Taper Length (ft)			25		100			
Lane Util. Factor	1.00	1.00	1.00	0.91	1.00	1.00		
Frt								
Flt Protected					0.950			
Satd. Flow (prot)	0	0	0	5085	1770	0		
Flt Permitted					0.950			
Satd. Flow (perm)	0	0	0	5085	1770	0		
Right Turn on Red		No			No	No		
Satd. Flow (RTOR)								
Link Speed (mph)	45			45	50			
Link Distance (ft)	584			219	648			
Travel Time (s)	8.8			3.3	8.8			
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90		
Adj. Flow (vph)	0	0	0	2198	159	0		
Shared Lane Traffic (%)								
Lane Group Flow (vph)	0	0	0	2198	159	0		
Enter Blocked Intersection	No	No	No	No	No	No		
Lane Alignment	Left	Right	Left	Left	Left	Right		
Median Width(ft)	12			12	12			
Link Offset(ft)	0			0	0			
Crosswalk Width(ft)	16			16	16			
Two way Left Turn Lane								
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Turning Speed (mph)		9	15		15	9		
Turn Type				NA	Prot			
Protected Phases				6	8		2	4
Permitted Phases								
Detector Phase				6	8			
Switch Phase								
Minimum Initial (s)				12.0	7.0		7.0	12.0
Minimum Split (s)				19.0	14.0		14.0	19.0
Total Split (s)				70.0	70.0		70.0	70.0
Total Split (%)				50.0%	50.0%		50%	50%
Maximum Green (s)				63.0	63.0		63.0	63.0
Yellow Time (s)				5.0	5.0		5.0	5.0
All-Red Time (s)				2.0	2.0		2.0	2.0
Lost Time Adjust (s)				-2.0	-2.0			
Total Lost Time (s)				5.0	5.0			
Lead/Lag								
Lead-Lag Optimize?								
Vehicle Extension (s)				3.0	3.0		3.0	3.0
Recall Mode				C-Min	None		C-Min	None
Act Effct Green (s)				65.0	65.0			

							Ø2	Ø4
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR		
Actuated g/C Ratio				0.46	0.46			
v/c Ratio				0.93	0.19			
Control Delay				6.1	22.9			
Queue Delay				0.0	0.0			
Total Delay				6.1	22.9			
LOS				A	C			
Approach Delay				6.1	22.9			
Approach LOS				A	C			
Queue Length 50th (ft)				30	84			
Queue Length 95th (ft)				42	132			
Internal Link Dist (ft)	504			139	568			
Turn Bay Length (ft)					500			
Base Capacity (vph)				2360	821			
Starvation Cap Reductn				0	0			
Spillback Cap Reductn				0	0			
Storage Cap Reductn				0	0			
Reduced v/c Ratio				0.93	0.19			

Intersection Summary

Area Type: Other
 Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 78 (56%), Referenced to phase 2:NBR and 6:, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.95
 Intersection Signal Delay: 7.2
 Intersection Capacity Utilization 54.5%
 Analysis Period (min) 15

Intersection LOS: A
ICU Level of Service A

Splits and Phases: 4: I-485 Northbound Off ramp

#444 Ø2 (R)		#44 #444 ↓ → Ø4	
70 s		70 s	
#4 #44 ← ← Ø6 (R)		#4 ↙ Ø8	
70 s		70 s	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↑↑↑						↑↑↑	
Traffic Volume (vph)	0	0	0	0	1978	0	0	0	0	0	2012	0
Future Volume (vph)	0	0	0	0	1978	0	0	0	0	0	2012	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	0.91	1.00
Frt												
Flt Protected												
Satd. Flow (prot)	0	0	0	0	5085	0	0	0	0	0	5085	0
Flt Permitted												
Satd. Flow (perm)	0	0	0	0	5085	0	0	0	0	0	5085	0
Right Turn on Red			No	No		No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		219			108			112			188	
Travel Time (s)		3.3			1.6			1.7			2.8	
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)	0	0	0	0	2198	0	0	0	0	0	2236	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	2198	0	0	0	0	0	2236	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type					NA						NA	
Protected Phases					6						4	
Permitted Phases												
Detector Phase					6						4	
Switch Phase												
Minimum Initial (s)					12.0						12.0	
Minimum Split (s)					19.0						19.0	
Total Split (s)					70.0						70.0	
Total Split (%)					50.0%						50.0%	
Maximum Green (s)					63.0						63.0	
Yellow Time (s)					5.0						5.0	
All-Red Time (s)					2.0						2.0	
Lost Time Adjust (s)					-2.0						-2.0	
Total Lost Time (s)					5.0						5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)					3.0						3.0	
Recall Mode					C-Min						None	
Act Effect Green (s)					65.0						65.0	
Actuated g/C Ratio					0.46						0.46	
v/c Ratio					0.93						0.95	
Control Delay					38.0						45.8	

Lane Group	Ø2	Ø8
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Lane Util. Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Peak Hour Factor		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(ft)		
Link Offset(ft)		
Crosswalk Width(ft)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (mph)		
Turn Type		
Protected Phases	2	8
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	7.0	7.0
Minimum Split (s)	14.0	14.0
Total Split (s)	70.0	70.0
Total Split (%)	50%	50%
Maximum Green (s)	63.0	63.0
Yellow Time (s)	5.0	5.0
All-Red Time (s)	2.0	2.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag		
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	3.0
Recall Mode	C-Min	None
Act Effect Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay					0.1						0.0	
Total Delay					38.1						45.8	
LOS					D						D	
Approach Delay					38.1						45.8	
Approach LOS					D						D	
Queue Length 50th (ft)					500						701	
Queue Length 95th (ft)					657						#782	
Internal Link Dist (ft)		139			28			32			108	
Turn Bay Length (ft)												
Base Capacity (vph)					2360						2360	
Starvation Cap Reductn					0						0	
Spillback Cap Reductn					7						1	
Storage Cap Reductn					0						0	
Reduced v/c Ratio					0.93						0.95	

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 78 (56%), Referenced to phase 2:NBR and 6:, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.95

Intersection Signal Delay: 42.0

Intersection LOS: D

Intersection Capacity Utilization 85.4%

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: 44:

#444	#44 #444
↓ Ø2 (R)	↓ → Ø4
70 s	70 s
#4 #44	#4
← ← Ø6 (R)	↙ Ø8
70 s	70 s

Lane Group	Ø2	Ø8
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		
Intersection Summary		

Idlewild Mixed Use
444: I-485 Northbound Off Ramp & Idlewild Road

2040 Build
Timing Plan: PM Peak Hour

	→	↘	↙	←	↖	↗		
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	Ø6	Ø8
Lane Configurations	↑↑↑					↑↑↑		
Traffic Volume (vph)	2012	0	0	0	0	1081		
Future Volume (vph)	2012	0	0	0	0	1081		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900		
Storage Length (ft)		0	0		0	400		
Storage Lanes		0	0		0	1		
Taper Length (ft)			25		25			
Lane Util. Factor	0.91	1.00	1.00	1.00	1.00	0.76		
Frt						0.850		
Flt Protected								
Satd. Flow (prot)	5085	0	0	0	0	3610		
Flt Permitted								
Satd. Flow (perm)	5085	0	0	0	0	3610		
Right Turn on Red		No				No		
Satd. Flow (RTOR)								
Link Speed (mph)	45			45	50			
Link Distance (ft)	112			150	691			
Travel Time (s)	1.7			2.3	9.4			
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90		
Adj. Flow (vph)	2236	0	0	0	0	1201		
Shared Lane Traffic (%)								
Lane Group Flow (vph)	2236	0	0	0	0	1201		
Enter Blocked Intersection	No	No	No	No	No	No		
Lane Alignment	Left	Right	Left	Left	Left	Right		
Median Width(ft)	0			0	0			
Link Offset(ft)	0			0	0			
Crosswalk Width(ft)	16			16	16			
Two way Left Turn Lane								
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Turning Speed (mph)		9	15		15	9		
Turn Type	NA					Prot		
Protected Phases	4					2	6	8
Permitted Phases								
Detector Phase	4					2		
Switch Phase								
Minimum Initial (s)	12.0					7.0	12.0	7.0
Minimum Split (s)	19.0					14.0	19.0	14.0
Total Split (s)	70.0					70.0	70.0	70.0
Total Split (%)	50.0%					50.0%	50%	50%
Maximum Green (s)	63.0					63.0	63.0	63.0
Yellow Time (s)	5.0					5.0	5.0	5.0
All-Red Time (s)	2.0					2.0	2.0	2.0
Lost Time Adjust (s)	-2.0					-2.0		
Total Lost Time (s)	5.0					5.0		
Lead/Lag								
Lead-Lag Optimize?								
Vehicle Extension (s)	3.0					3.0	3.0	3.0
Recall Mode	None					C-Min	C-Min	None
Act Effct Green (s)	65.0					65.0		

Lanes, Volumes, Timings
RKA

Synchro 9 Report
Page 1

	→	↘	↙	←	↖	↗		
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	Ø6	Ø8
Actuated g/C Ratio	0.46					0.46		
v/c Ratio	0.95					0.72		
Control Delay	6.2					33.1		
Queue Delay	0.0					0.2		
Total Delay	6.2					33.3		
LOS	A					C		
Approach Delay	6.2				33.3			
Approach LOS	A				C			
Queue Length 50th (ft)	9					378		
Queue Length 95th (ft)	m#22					448		
Internal Link Dist (ft)	32			70	611			
Turn Bay Length (ft)						400		
Base Capacity (vph)	2360					1676		
Starvation Cap Reductn	0					0		
Spillback Cap Reductn	0					74		
Storage Cap Reductn	0					0		
Reduced v/c Ratio	0.95					0.75		

Intersection Summary

Area Type: Other
 Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 78 (56%), Referenced to phase 2:NBR and 6:, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.95
 Intersection Signal Delay: 15.7
 Intersection Capacity Utilization 85.4%
 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.

Intersection LOS: B
 ICU Level of Service E

Splits and Phases: 444: I-485 Northbound Off Ramp & Idlewild Road

#444	#44 #444
↘ Ø2 (R)	↓ → Ø4
70 s	70 s
#4 #44	#4
← ← Ø6 (R)	↖ Ø8
70 s	70 s

APPENDIX I

IDLEWILD ROAD AND MARSHALL HOOKS ROAD / ACCESS A

SYNCHRO REPORTS AND TURN LANE WARRANTS



												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	552	4	4	1310	4	4	4	4	4	4	4
Future Volume (Veh/h)	4	552	4	4	1310	4	4	4	4	4	4	4
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	4	613	4	4	1456	4	4	4	4	4	4	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			None							
Median storage veh		2										
Upstream signal (ft)		595			1027							
pX, platoon unblocked				0.99			0.99	0.99	0.99	0.99	0.99	
vC, conflicting volume	1460			617			1365	2091	308	1786	2091	730
vC1, stage 1 conf vol							623	623		1466	1466	
vC2, stage 2 conf vol							742	1468		320	625	
vCu, unblocked vol	1460			584			1342	2078	271	1770	2078	730
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			99	98	99	97	98	99
cM capacity (veh/h)	459			973			290	172	717	129	175	365

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	4	409	208	4	971	489	12	12
Volume Left	4	0	0	4	0	0	4	4
Volume Right	0	0	4	0	0	4	4	4
cSH	459	1700	1700	973	1700	1700	282	185
Volume to Capacity	0.01	0.24	0.12	0.00	0.57	0.29	0.04	0.06
Queue Length 95th (ft)	1	0	0	0	0	0	3	5
Control Delay (s)	12.9	0.0	0.0	8.7	0.0	0.0	18.4	25.8
Lane LOS	B			A			C	D
Approach Delay (s)	0.1			0.0			18.4	25.8
Approach LOS							C	D

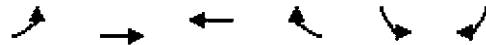
Intersection Summary

Average Delay	0.3		
Intersection Capacity Utilization	46.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↕		↰	↕			↕			↕	
Traffic Volume (veh/h)	4	563	4	4	1336	4	4	4	4	4	4	4
Future Volume (Veh/h)	4	563	4	4	1336	4	4	4	4	4	4	4
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	4	626	4	4	1484	4	4	4	4	4	4	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLT			None							
Median storage (veh)		2										
Upstream signal (ft)		595			1027							
pX, platoon unblocked				0.98			0.98	0.98	0.98	0.98	0.98	
vC, conflicting volume	1488			630			1392	2132	315	1821	2132	744
vC1, stage 1 conf vol							636	636		1494	1494	
vC2, stage 2 conf vol							756	1496		327	638	
vCu, unblocked vol	1488			579			1358	2113	258	1796	2113	744
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			99	98	99	97	98	99
cM capacity (veh/h)	448			970			286	167	726	124	170	357

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	4	417	213	4	989	499	12	12
Volume Left	4	0	0	4	0	0	4	4
Volume Right	0	0	4	0	0	4	4	4
cSH	448	1700	1700	970	1700	1700	276	179
Volume to Capacity	0.01	0.25	0.13	0.00	0.58	0.29	0.04	0.07
Queue Length 95th (ft)	1	0	0	0	0	0	3	5
Control Delay (s)	13.1	0.0	0.0	8.7	0.0	0.0	18.6	26.5
Lane LOS	B			A			C	D
Approach Delay (s)	0.1			0.0			18.6	26.5
Approach LOS							C	D

Intersection Summary								
Average Delay		0.3						
Intersection Capacity Utilization		47.1%		ICU Level of Service			A	
Analysis Period (min)		15						



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	4	586	1404	4	4	4
Future Volume (Veh/h)	4	586	1404	4	4	4
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	4	651	1560	4	4	4
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLTL	None			
Median storage veh		2				
Upstream signal (ft)		595	1027			
pX, platoon unblocked					0.98	
vC, conflicting volume	1564				1896	782
vC1, stage 1 conf vol					1562	
vC2, stage 2 conf vol					334	
vCu, unblocked vol	1564				1871	782
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)	2.2				3.5	3.3
p0 queue free %	99				97	99
cM capacity (veh/h)	418				153	337

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	4	326	326	1040	524	8
Volume Left	4	0	0	0	0	4
Volume Right	0	0	0	0	4	4
cSH	418	1700	1700	1700	1700	210
Volume to Capacity	0.01	0.19	0.19	0.61	0.31	0.04
Queue Length 95th (ft)	1	0	0	0	0	3
Control Delay (s)	13.7	0.0	0.0	0.0	0.0	22.8
Lane LOS	B					C
Approach Delay (s)	0.1			0.0		22.8
Approach LOS						C

Intersection Summary						
Average Delay		0.1				
Intersection Capacity Utilization		48.9%		ICU Level of Service		A
Analysis Period (min)		15				

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	588	125	75	1492	4	0	0	39	0	0	4
Future Volume (Veh/h)	4	588	125	75	1492	4	0	0	39	0	0	4
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	4	653	139	83	1658	4	0	0	43	0	0	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			None							
Median storage (veh)		2										
Upstream signal (ft)		595			1027							
pX, platoon unblocked				0.97			0.97	0.97	0.97	0.97	0.97	
vC, conflicting volume	1662			792			1730	2558	396	2204	2626	831
vC1, stage 1 conf vol							730	730		1826	1826	
vC2, stage 2 conf vol							999	1828		378	800	
vCu, unblocked vol	1662			715			1685	2543	305	2176	2613	831
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			90			100	100	94	100	100	99
cM capacity (veh/h)	383			852			199	104	668	70	105	313
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1				
Volume Total	4	435	357	83	1105	557	43	4				
Volume Left	4	0	0	83	0	0	0	0				
Volume Right	0	0	139	0	0	4	43	4				
cSH	383	1700	1700	852	1700	1700	668	313				
Volume to Capacity	0.01	0.26	0.21	0.10	0.65	0.33	0.06	0.01				
Queue Length 95th (ft)	1	0	0	8	0	0	5	1				
Control Delay (s)	14.5	0.0	0.0	9.7	0.0	0.0	10.8	16.7				
Lane LOS	B			A			B	C				
Approach Delay (s)	0.1			0.5			10.8	16.7				
Approach LOS							B	C				

Intersection Summary

Average Delay	0.5		
Intersection Capacity Utilization	51.4%	ICU Level of Service	A
Analysis Period (min)	15		

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	588	125	75	1492	4	0	0	39	0	0	4
Future Volume (Veh/h)	4	588	125	75	1492	4	0	0	39	0	0	4
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	4	653	139	83	1658	4	0	0	43	0	0	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLT			None							
Median storage (veh)		2										
Upstream signal (ft)		595			1027							
pX, platoon unblocked				0.98			0.98	0.98	0.98	0.98	0.98	
vC, conflicting volume	1662			792			1660	2489	326	2204	2626	831
vC1, stage 1 conf vol							661	661		1826	1826	
vC2, stage 2 conf vol							999	1828		378	800	
vCu, unblocked vol	1662			747			1632	2478	271	2187	2618	831
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			90			100	100	94	100	100	99
cM capacity (veh/h)	383			840			202	105	712	70	105	313
Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	NB 1	SB 1			
Volume Total	4	326	326	139	83	1105	557	43	4			
Volume Left	4	0	0	0	83	0	0	0	0			
Volume Right	0	0	0	139	0	0	4	43	4			
cSH	383	1700	1700	1700	840	1700	1700	712	313			
Volume to Capacity	0.01	0.19	0.19	0.08	0.10	0.65	0.33	0.06	0.01			
Queue Length 95th (ft)	1	0	0	0	8	0	0	5	1			
Control Delay (s)	14.5	0.0	0.0	0.0	9.8	0.0	0.0	10.4	16.7			
Lane LOS	B				A			B	C			
Approach Delay (s)	0.1				0.5			10.4	16.7			
Approach LOS								B	C			

Intersection Summary

Average Delay	0.5		
Intersection Capacity Utilization	51.4%	ICU Level of Service	A
Analysis Period (min)	15		

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	102	2108	45	10	2571	54	0	0	5	0	0	41
Future Volume (vph)	102	2108	45	10	2571	54	0	0	5	0	0	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400		0	300		0	0		0	0		0
Storage Lanes	1		0	1		0	0		1	0		1
Taper Length (ft)	100			100			25			25		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.997			0.997				0.865			0.865
Flt Protected	0.950			0.950								
Satd. Flow (prot)	1770	5070	0	1770	5070	0	0	0	1611	0	0	1611
Flt Permitted	0.950			0.950								
Satd. Flow (perm)	1770	5070	0	1770	5070	0	0	0	1611	0	0	1611
Right Turn on Red			Yes			No			No			Yes
Satd. Flow (RTOR)		11										36
Link Speed (mph)		45			45			35			35	
Link Distance (ft)		452			1027			443			2330	
Travel Time (s)		6.8			15.6			8.6			45.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	113	2342	50	11	2857	60	0	0	6	0	0	46
Shared Lane Traffic (%)												
Lane Group Flow (vph)	113	2392	0	11	2917	0	0	0	6	0	0	46
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA				Over			Over
Protected Phases	5	2		1	6				1			5
Permitted Phases												
Detector Phase	5	2		1	6				1			5
Switch Phase												
Minimum Initial (s)	7.0	12.0		7.0	12.0				7.0			7.0
Minimum Split (s)	14.0	19.0		14.0	19.0				14.0			14.0
Total Split (s)	22.0	106.0		14.0	98.0				14.0			22.0
Total Split (%)	18.3%	88.3%		11.7%	81.7%				11.7%			18.3%
Maximum Green (s)	15.0	99.0		7.0	91.0				7.0			15.0
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	Lag		Lead	Lag				Lead			Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0				3.0			3.0
Recall Mode	None	C-Min		None	C-Min				None			None
Act Effect Green (s)	14.4	112.4		9.0	95.6				9.0			14.4

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.12	0.94		0.08	0.80				0.08			0.12
v/c Ratio	0.54	0.50		0.08	0.72				0.05			0.21
Control Delay	71.6	0.5		46.0	2.7				52.6			21.4
Queue Delay	0.0	0.0		0.0	0.0				0.0			0.0
Total Delay	71.6	0.6		46.0	2.7				52.6			21.4
LOS	E	A		D	A				D			C
Approach Delay		3.8			2.9			52.6			21.4	
Approach LOS		A			A			D			C	
Queue Length 50th (ft)	91	0		9	43				4			7
Queue Length 95th (ft)	m125	34		m12	42				19			42
Internal Link Dist (ft)		372			947			363			2250	
Turn Bay Length (ft)	400			300								
Base Capacity (vph)	250	4749		132	4040				120			259
Starvation Cap Reductn	0	342		0	42				0			0
Spillback Cap Reductn	0	0		0	0				0			0
Storage Cap Reductn	0	0		0	0				0			0
Reduced v/c Ratio	0.45	0.54		0.08	0.73				0.05			0.18

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 113 (94%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.72

Intersection Signal Delay: 3.5

Intersection LOS: A

Intersection Capacity Utilization 65.0%

ICU Level of Service C

Analysis Period (min) 15

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

Splits and Phases: 5: Boyd Funderburk Drive/Marshall Hooks Road & Idlewild Road

	Ø1		Ø2 (R)
14 s		106 s	
	Ø5		Ø6 (R)
22 s		98 s	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	102	2133	170	85	2727	54	0	0	44	0	0	41
Future Volume (vph)	102	2133	170	85	2727	54	0	0	44	0	0	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400		0	300		0	0		0	0		0
Storage Lanes	1		0	1		0	0		1	0		1
Taper Length (ft)	100			100			25			25		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.989			0.997				0.865			0.865
Flt Protected	0.950			0.950								
Satd. Flow (prot)	1770	5029	0	1770	5070	0	0	0	1611	0	0	1611
Flt Permitted	0.950			0.950								
Satd. Flow (perm)	1770	5029	0	1770	5070	0	0	0	1611	0	0	1611
Right Turn on Red			Yes			No			No			Yes
Satd. Flow (RTOR)		40										36
Link Speed (mph)		45			45			35			35	
Link Distance (ft)		452			1027			443			2330	
Travel Time (s)		6.8			15.6			8.6			45.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	113	2370	189	94	3030	60	0	0	49	0	0	46
Shared Lane Traffic (%)												
Lane Group Flow (vph)	113	2559	0	94	3090	0	0	0	49	0	0	46
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA				Over			Over
Protected Phases	5	2		1	6				1			5
Permitted Phases												
Detector Phase	5	2		1	6				1			5
Switch Phase												
Minimum Initial (s)	7.0	12.0		7.0	12.0				7.0			7.0
Minimum Split (s)	14.0	19.0		14.0	19.0				14.0			14.0
Total Split (s)	21.0	102.0		18.0	99.0				18.0			21.0
Total Split (%)	17.5%	85.0%		15.0%	82.5%				15.0%			17.5%
Maximum Green (s)	14.0	95.0		11.0	92.0				11.0			14.0
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	Lag		Lead	Lag				Lead			Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0				3.0			3.0
Recall Mode	None	C-Min		None	C-Min				None			None
Act Effect Green (s)	14.0	98.0		12.0	96.0				12.0			14.0

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.12	0.82		0.10	0.80				0.10			0.12
v/c Ratio	0.55	0.62		0.53	0.76				0.30			0.21
Control Delay	71.1	1.3		48.9	3.2				54.9			21.8
Queue Delay	0.0	0.4		0.0	0.0				0.0			0.0
Total Delay	71.1	1.7		48.9	3.2				54.9			21.8
LOS	E	A		D	A				D			C
Approach Delay		4.6			4.5			54.9			21.8	
Approach LOS		A			A			D			C	
Queue Length 50th (ft)	91	35		72	100				35			7
Queue Length 95th (ft)	m120	38		m83	104				76			42
Internal Link Dist (ft)		372			947			363			2250	
Turn Bay Length (ft)	400			300								
Base Capacity (vph)	236	4114		191	4057				174			246
Starvation Cap Reductn	0	843		0	42				0			0
Spillback Cap Reductn	0	0		0	0				0			0
Storage Cap Reductn	0	0		0	0				0			0
Reduced v/c Ratio	0.48	0.78		0.49	0.77				0.28			0.19

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 115 (96%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.76

Intersection Signal Delay: 5.1

Intersection LOS: A

Intersection Capacity Utilization 68.1%

ICU Level of Service C

Analysis Period (min) 15

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

Splits and Phases: 5: Boyd Funderburk Drive/Marshall Hooks Road & Idlewild Road

	
Ø1	Ø2 (R)
18 s	102 s
	
Ø5	Ø6 (R)
21 s	99 s

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	1338	4	4	924	4	4	4	4	4	4	4
Future Volume (Veh/h)	4	1338	4	4	924	4	4	4	4	4	4	4
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	4	1487	4	4	1027	4	4	4	4	4	4	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			None							
Median storage (veh)		2										
Upstream signal (ft)		595			1027							
pX, platoon unblocked				0.88			0.88	0.88	0.88	0.88	0.88	
vC, conflicting volume	1031			1491			2024	2536	746	1794	2536	516
vC1, stage 1 conf vol							1497	1497		1037	1037	
vC2, stage 2 conf vol							528	1039		758	1499	
vCu, unblocked vol	1031			1291			1895	2474	447	1635	2474	516
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			97	98	99	98	98	99
cM capacity (veh/h)	670			471			141	162	494	216	161	504

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	4	991	500	4	685	346	12	12
Volume Left	4	0	0	4	0	0	4	4
Volume Right	0	0	4	0	0	4	4	4
cSH	670	1700	1700	471	1700	1700	196	234
Volume to Capacity	0.01	0.58	0.29	0.01	0.40	0.20	0.06	0.05
Queue Length 95th (ft)	0	0	0	1	0	0	5	4
Control Delay (s)	10.4	0.0	0.0	12.7	0.0	0.0	24.5	21.2
Lane LOS	B			B			C	C
Approach Delay (s)	0.0			0.0			24.5	21.2
Approach LOS							C	C

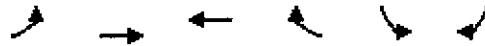
Intersection Summary

Average Delay	0.3							
Intersection Capacity Utilization	47.1%			ICU Level of Service			A	
Analysis Period (min)	15							

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	1365	4	4	943	4	4	4	4	4	4	4
Future Volume (Veh/h)	4	1365	4	4	943	4	4	4	4	4	4	4
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	4	1517	4	4	1048	4	4	4	4	4	4	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			None							
Median storage (veh)		2										
Upstream signal (ft)		595			1027							
pX, platoon unblocked				0.86			0.86	0.86	0.86	0.86	0.86	
vC, conflicting volume	1052			1521			2065	2587	760	1830	2587	526
vC1, stage 1 conf vol							1527	1527		1058	1058	
vC2, stage 2 conf vol							538	1060		772	1529	
vCu, unblocked vol	1052			1290			1919	2522	410	1647	2522	526
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			97	97	99	98	97	99
cM capacity (veh/h)	657			461			138	159	511	212	157	496
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1				
Volume Total	4	1011	510	4	699	353	12	12				
Volume Left	4	0	0	4	0	0	4	4				
Volume Right	0	0	4	0	0	4	4	4				
cSH	657	1700	1700	461	1700	1700	194	229				
Volume to Capacity	0.01	0.59	0.30	0.01	0.41	0.21	0.06	0.05				
Queue Length 95th (ft)	0	0	0	1	0	0	5	4				
Control Delay (s)	10.5	0.0	0.0	12.9	0.0	0.0	24.8	21.6				
Lane LOS	B			B			C	C				
Approach Delay (s)	0.0			0.0			24.8	21.6				
Approach LOS							C	C				

Intersection Summary

Average Delay	0.2							
Intersection Capacity Utilization	47.9%			ICU Level of Service			A	
Analysis Period (min)	15							



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↰	↑↑	↑↑		↰	
Traffic Volume (veh/h)	4	1435	986	4	4	4
Future Volume (Veh/h)	4	1435	986	4	4	4
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	4	1594	1096	4	4	4
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLT	None			
Median storage veh		2				
Upstream signal (ft)		595	1027			
pX, platoon unblocked					0.85	
vC, conflicting volume	1100				1903	550
vC1, stage 1 conf vol					1098	
vC2, stage 2 conf vol					805	
vCu, unblocked vol	1100				1712	550
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)	2.2				3.5	3.3
p0 queue free %	99				98	99
cM capacity (veh/h)	630				248	479

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	4	797	797	731	369	8
Volume Left	4	0	0	0	0	4
Volume Right	0	0	0	0	4	4
cSH	630	1700	1700	1700	1700	327
Volume to Capacity	0.01	0.47	0.47	0.43	0.22	0.02
Queue Length 95th (ft)	0	0	0	0	0	2
Control Delay (s)	10.7	0.0	0.0	0.0	0.0	16.3
Lane LOS	B					C
Approach Delay (s)	0.0			0.0		16.3
Approach LOS						C

Intersection Summary						
Average Delay		0.1				
Intersection Capacity Utilization		49.7%		ICU Level of Service		A
Analysis Period (min)		15				

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	1369	149	92	1073	4	0	0	55	0	0	4
Future Volume (Veh/h)	4	1369	149	92	1073	4	0	0	55	0	0	4
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	4	1521	166	102	1192	4	0	0	61	0	0	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			None							
Median storage (veh)		2										
Upstream signal (ft)		595			1027							
pX, platoon unblocked				0.83			0.83	0.83	0.83	0.83	0.83	
vC, conflicting volume	1196			1687			2416	3012	844	2228	3093	598
vC1, stage 1 conf vol							1612	1612		1398	1398	
vC2, stage 2 conf vol							804	1400		830	1695	
vCu, unblocked vol	1196			1426			2300	3014	415	2074	3111	598
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			74			100	100	88	100	100	99
cM capacity (veh/h)	579			395			113	109	489	102	55	445

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	4	1014	673	102	795	401	61	4
Volume Left	4	0	0	102	0	0	0	0
Volume Right	0	0	166	0	0	4	61	4
cSH	579	1700	1700	395	1700	1700	489	445
Volume to Capacity	0.01	0.60	0.40	0.26	0.47	0.24	0.12	0.01
Queue Length 95th (ft)	1	0	0	25	0	0	11	1
Control Delay (s)	11.3	0.0	0.0	17.3	0.0	0.0	13.4	13.2
Lane LOS	B			C			B	B
Approach Delay (s)	0.0			1.4			13.4	13.2
Approach LOS							B	B

Intersection Summary

Average Delay	0.9	
Intersection Capacity Utilization	54.4%	ICU Level of Service
Analysis Period (min)	15	A

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	1369	149	92	1073	4	0	0	55	0	0	4
Future Volume (Veh/h)	4	1369	149	92	1073	4	0	0	55	0	0	4
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	4	1521	166	102	1192	4	0	0	61	0	0	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLT			None							
Median storage veh		2										
Upstream signal (ft)		595			1027							
pX, platoon unblocked				0.84			0.84	0.84	0.84	0.84	0.84	
vC, conflicting volume	1196			1687			2333	2929	760	2228	3093	598
vC1, stage 1 conf vol							1529	1529		1398	1398	
vC2, stage 2 conf vol							804	1400		830	1695	
vCu, unblocked vol	1196			1442			2208	2916	342	2083	3110	598
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			74			100	100	89	100	100	99
cM capacity (veh/h)	579			393			125	113	551	101	54	445

Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	4	760	760	166	102	795	401	61	4
Volume Left	4	0	0	0	102	0	0	0	0
Volume Right	0	0	0	166	0	0	4	61	4
cSH	579	1700	1700	1700	393	1700	1700	551	445
Volume to Capacity	0.01	0.45	0.45	0.10	0.26	0.47	0.24	0.11	0.01
Queue Length 95th (ft)	1	0	0	0	26	0	0	9	1
Control Delay (s)	11.3	0.0	0.0	0.0	17.3	0.0	0.0	12.4	13.2
Lane LOS	B				C			B	B
Approach Delay (s)	0.0				1.4			12.4	13.2
Approach LOS								B	B

Intersection Summary									
Average Delay		0.9							
Intersection Capacity Utilization		49.6%		ICU Level of Service				A	
Analysis Period (min)		15							

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	105	2681	171	38	2516	56	0	0	14	0	0	128
Future Volume (vph)	105	2681	171	38	2516	56	0	0	14	0	0	128
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400		0	300		0	0		0	0		0
Storage Lanes	1		0	1		0	0		1	0		1
Taper Length (ft)	100			100			25			25		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.991			0.997				0.865			0.865
Flt Protected	0.950			0.950								
Satd. Flow (prot)	1770	5040	0	1770	5070	0	0	0	1611	0	0	1611
Flt Permitted	0.950			0.950								
Satd. Flow (perm)	1770	5040	0	1770	5070	0	0	0	1611	0	0	1611
Right Turn on Red			Yes			No			No			Yes
Satd. Flow (RTOR)		37										34
Link Speed (mph)		45			45			35			35	
Link Distance (ft)		452			1027			443			2330	
Travel Time (s)		6.8			15.6			8.6			45.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	117	2979	190	42	2796	62	0	0	16	0	0	142
Shared Lane Traffic (%)												
Lane Group Flow (vph)	117	3169	0	42	2858	0	0	0	16	0	0	142
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA				Over			Over
Protected Phases	5	2		1	6				1			5
Permitted Phases												
Detector Phase	5	2		1	6				1			5
Switch Phase												
Minimum Initial (s)	7.0	12.0		7.0	12.0				7.0			7.0
Minimum Split (s)	14.0	19.0		14.0	19.0				14.0			14.0
Total Split (s)	26.0	116.0		14.0	104.0				14.0			26.0
Total Split (%)	20.0%	89.2%		10.8%	80.0%				10.8%			20.0%
Maximum Green (s)	19.0	109.0		7.0	97.0				7.0			19.0
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	Lag		Lead	Lag				Lead			Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0				3.0			3.0
Recall Mode	None	C-Min		None	C-Min				None			None
Act Effct Green (s)	16.1	114.8		9.0	103.9				9.0			16.1

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.12	0.88		0.07	0.80				0.07			0.12
v/c Ratio	0.54	0.71		0.34	0.71				0.14			0.62
Control Delay	68.3	1.1		63.1	2.3				60.1			52.3
Queue Delay	0.0	0.5		0.0	0.2				0.0			0.0
Total Delay	68.3	1.6		63.1	2.5				60.1			52.3
LOS	E	A		E	A				E			D
Approach Delay		4.0			3.4			60.1			52.3	
Approach LOS		A			A			E			D	
Queue Length 50th (ft)	102	45		36	58				13			87
Queue Length 95th (ft)	m125	66		m47	m61				38			153
Internal Link Dist (ft)		372			947			363			2250	
Turn Bay Length (ft)	400			300								
Base Capacity (vph)	285	4454		123	4053				112			288
Starvation Cap Reductn	0	716		0	418				0			0
Spillback Cap Reductn	0	64		0	0				0			0
Storage Cap Reductn	0	0		0	0				0			0
Reduced v/c Ratio	0.41	0.85		0.34	0.79				0.14			0.49

Intersection Summary

Area Type: Other

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 90 (69%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.71

Intersection Signal Delay: 4.9

Intersection Capacity Utilization 69.8%

Analysis Period (min) 15

Intersection LOS: A

ICU Level of Service C

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

Splits and Phases: 5: Boyd Funderburk Drive/Marshall Hooks Road & Idlewild Road

	
Ø1	Ø2 (R)
14 s	116 s
	
Ø5	Ø6 (R)
26 s	104 s

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	105	2685	320	130	2646	56	0	0	69	0	0	128
Future Volume (vph)	105	2685	320	130	2646	56	0	0	69	0	0	128
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400		0	300		0	0		0	0		0
Storage Lanes	1		0	1		0	0		1	0		1
Taper Length (ft)	100			100			25			25		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.984			0.997				0.865			0.865
Flt Protected	0.950			0.950								
Satd. Flow (prot)	1770	5004	0	1770	5070	0	0	0	1611	0	0	1611
Flt Permitted	0.950			0.950								
Satd. Flow (perm)	1770	5004	0	1770	5070	0	0	0	1611	0	0	1611
Right Turn on Red			Yes			No			No			Yes
Satd. Flow (RTOR)		49										31
Link Speed (mph)		45			45			35			35	
Link Distance (ft)		452			1027			443			2330	
Travel Time (s)		6.8			15.6			8.6			45.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	117	2983	356	144	2940	62	0	0	77	0	0	142
Shared Lane Traffic (%)												
Lane Group Flow (vph)	117	3339	0	144	3002	0	0	0	77	0	0	142
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA				Over			Over
Protected Phases	5	2		1	6				1			5
Permitted Phases												
Detector Phase	5	2		1	6				1			5
Switch Phase												
Minimum Initial (s)	7.0	12.0		7.0	12.0				7.0			7.0
Minimum Split (s)	14.0	19.0		14.0	19.0				14.0			14.0
Total Split (s)	25.0	115.0		25.0	115.0				25.0			25.0
Total Split (%)	17.9%	82.1%		17.9%	82.1%				17.9%			17.9%
Maximum Green (s)	18.0	108.0		18.0	108.0				18.0			18.0
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	Lag		Lead	Lag				Lead			Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0				3.0			3.0
Recall Mode	None	C-Min		None	C-Min				None			None
Act Effct Green (s)	16.5	112.5		17.5	113.5				17.5			16.5

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.12	0.80		0.12	0.81				0.12			0.12
v/c Ratio	0.56	0.83		0.65	0.73				0.38			0.66
Control Delay	58.1	7.3		53.9	8.0				61.3			60.0
Queue Delay	0.0	0.5		0.0	0.0				0.0			0.0
Total Delay	58.1	7.8		53.9	8.0				61.3			60.0
LOS	E	A		D	A				E			E
Approach Delay		9.5			10.1			61.3			60.0	
Approach LOS		A			B			E			E	
Queue Length 50th (ft)	106	415		125	393				65			97
Queue Length 95th (ft)	m124	462		m145	m475				117			169
Internal Link Dist (ft)		372			947			363			2250	
Turn Bay Length (ft)	400			300								
Base Capacity (vph)	252	4032		252	4110				230			256
Starvation Cap Reductn	0	288		0	84				0			0
Spillback Cap Reductn	0	157		0	0				0			0
Storage Cap Reductn	0	0		0	0				0			0
Reduced v/c Ratio	0.46	0.89		0.57	0.75				0.33			0.55

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 104 (74%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.83

Intersection Signal Delay: 11.4

Intersection LOS: B

Intersection Capacity Utilization 74.5%

ICU Level of Service D

Analysis Period (min) 15

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

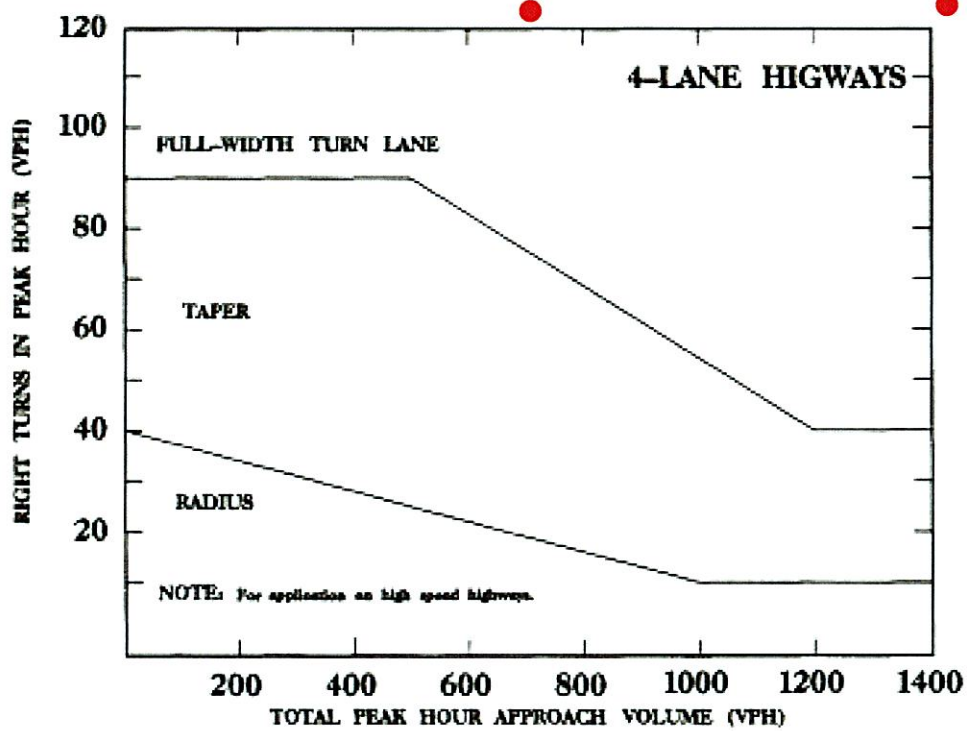
Splits and Phases: 5: Boyd Funderburk Drive/Marshall Hooks Road & Idlewild Road

	
Ø1	Ø2 (R)
25 s	115 s
	
Ø5	Ø6 (R)
25 s	115 s

Idlewild Road and Access A

2020 Build				
Peak Hour	Approach	Right Turn Volume	Approach Volume	Warranted?
AM	Eastbound	125	717	Yes
PM	Eastbound	149	1522	Yes

RIGHT TURN LANE WARRANTS

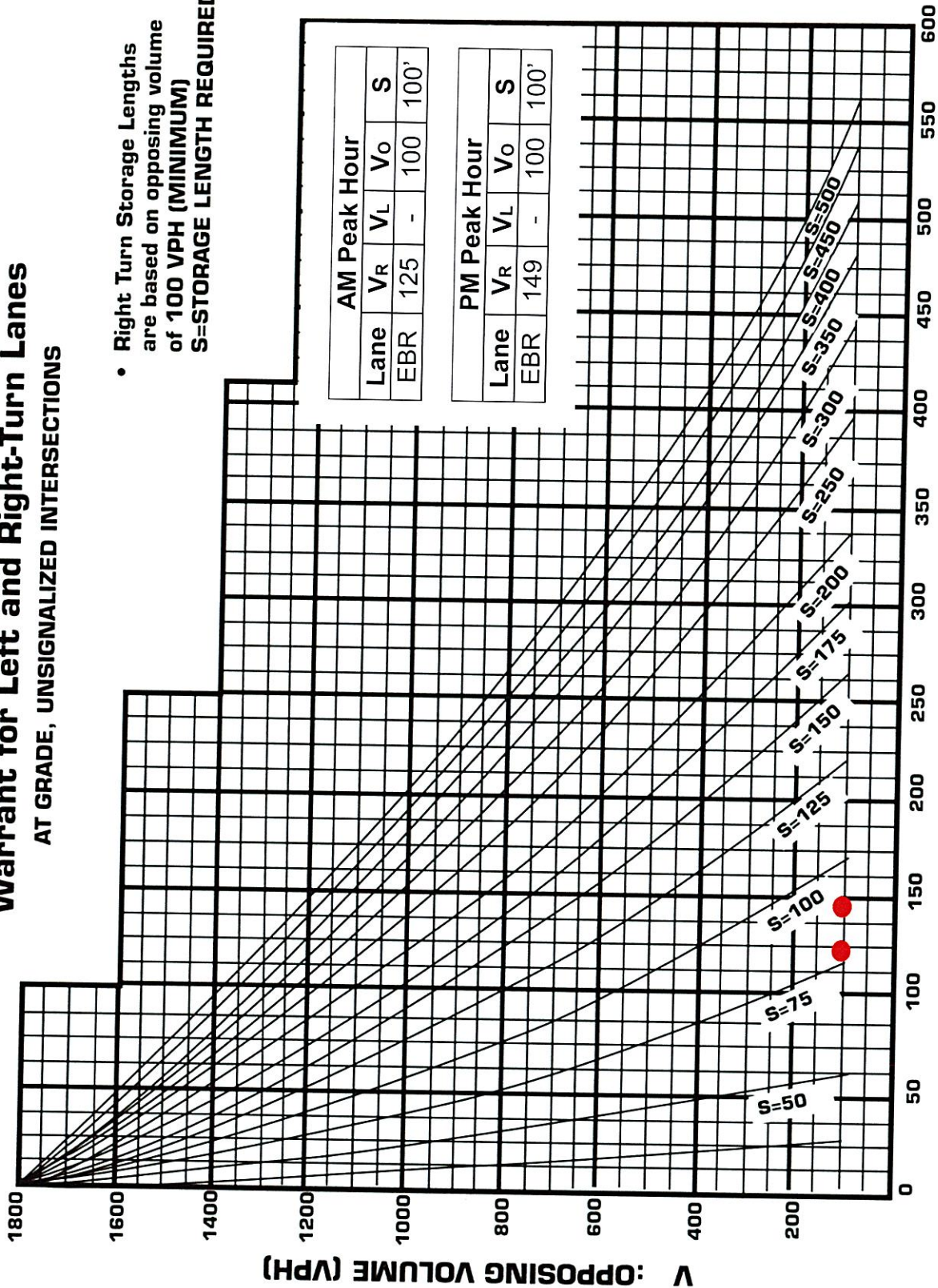


[illegible]

Idlewild Road and Access A
2020 Build

Warrant for Left and Right-Turn Lanes **AT GRADE, UNSIGNALIZED INTERSECTIONS**

- Right Turn Storage Lengths are based on opposing volume of 100 VPH (MINIMUM)
S=STORAGE LENGTH REQUIRED



Note: Where adjacent signalization may provide opportunities for gaps in the traffic stream a reduction in the above storage values can be considered on a case by case basis.

V_p: LEFT TURNING VOLUME (VPH)
V_p: RIGHT TURNING VOLUME (VPH)

[illegible]

APPENDIX J

IDLEWILD ROAD AND RITE AID DRIVEWAY

SYNCHRO REPORTS

[illegible]

	→	↘	↙	←	↖	↗	
Lane Group	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗		↖	↑	↘	
Traffic Volume (vph)	480	8	1	70	1219	49	16
Future Volume (vph)	480	8	1	70	1219	49	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0		150		0	0
Storage Lanes		1		1		1	0
Taper Length (ft)				150		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850				0.966	
Flt Protected				0.950		0.964	
Satd. Flow (prot)	1863	1583	0	1770	1863	1735	0
Flt Permitted				0.411		0.964	
Satd. Flow (perm)	1863	1583	0	766	1863	1735	0
Right Turn on Red		No					No
Satd. Flow (RTOR)							
Link Speed (mph)	45				45	35	
Link Distance (ft)	558				2122	2088	
Travel Time (s)	8.5				32.2	40.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	533	9	1	78	1354	54	18
Shared Lane Traffic (%)							
Lane Group Flow (vph)	533	9	0	79	1354	72	0
Enter Blocked Intersection	No	No	No	No	No	No	No
Lane Alignment	Left	Right	R NA	Left	Left	Left	Right
Median Width(ft)	12				12	12	
Link Offset(ft)	0				0	0	
Crosswalk Width(ft)	16				16	16	
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	9	15		15	9
Turn Type	NA	Perm	pm+pt	pm+pt	NA	Prot	
Protected Phases	2		1	1	6	4	
Permitted Phases		2	6	6			
Detector Phase	2	2	1	1	6	4	
Switch Phase							
Minimum Initial (s)	12.0	12.0	7.0	7.0	12.0	7.0	
Minimum Split (s)	19.0	19.0	13.0	13.0	19.0	12.0	
Total Split (s)	94.0	94.0	13.0	13.0	107.0	13.0	
Total Split (%)	78.3%	78.3%	10.8%	10.8%	89.2%	10.8%	
Maximum Green (s)	87.8	87.8	7.7	7.7	100.8	8.1	
Yellow Time (s)	4.9	4.9	3.0	3.0	4.9	3.0	
All-Red Time (s)	1.3	1.3	2.3	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	Lag	Lag	Lead	Lead			
Lead-Lag Optimize?							
Vehicle Extension (s)	6.0	6.0	1.0	1.0	6.0	1.0	
Minimum Gap (s)	3.0	3.0	0.2	0.2	3.0	0.2	
Time Before Reduce (s)	15.0	15.0	0.0	0.0	15.0	0.0	



Lane Group	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Time To Reduce (s)	30.0	30.0	0.0	0.0	30.0	0.0	
Recall Mode	C-Min	C-Min	None	None	C-Min	None	
Act Effct Green (s)	95.9	95.9		104.7	105.7	7.7	
Actuated g/C Ratio	0.80	0.80		0.87	0.88	0.06	
v/c Ratio	0.36	0.01		0.11	0.83	0.65	
Control Delay	2.7	0.4		1.5	6.8	81.5	
Queue Delay	0.0	0.0		0.0	0.0	0.0	
Total Delay	2.7	0.4		1.5	6.8	81.5	
LOS	A	A		A	A	F	
Approach Delay	2.7				6.5	81.5	
Approach LOS	A				A	F	
Queue Length 50th (ft)	8	0		9	438	55	
Queue Length 95th (ft)	2	m0		m6	m154	#121	
Internal Link Dist (ft)	478				2042	2008	
Turn Bay Length (ft)				150			
Base Capacity (vph)	1488	1264		735	1642	117	
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	0.36	0.01		0.11	0.82	0.62	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 100 (83%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.83
Intersection Signal Delay: 8.1
Intersection Capacity Utilization 78.3%
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.

Intersection LOS: A
ICU Level of Service D

Splits and Phases: 6: Rite Aid Driveway & Idlewild Road

Ø1	Ø2 (R)	Ø4
13 s	94 s	13 s
Ø6 (R)		
107 s		

	→	↘	↶	↙	←	↖	↗
Lane Group	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗		↖	↑	↖	
Traffic Volume (vph)	490	8	1	71	1244	50	16
Future Volume (vph)	490	8	1	71	1244	50	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0		150		0	0
Storage Lanes		1		1		1	0
Taper Length (ft)				150		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850				0.967	
Fit Protected				0.950		0.964	
Satd. Flow (prot)	1863	1583	0	1770	1863	1736	0
Fit Permitted				0.396		0.964	
Satd. Flow (perm)	1863	1583	0	738	1863	1736	0
Right Turn on Red		No					No
Satd. Flow (RTOR)							
Link Speed (mph)	45				45	35	
Link Distance (ft)	558				2122	2088	
Travel Time (s)	8.5				32.2	40.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	544	9	1	79	1382	56	18
Shared Lane Traffic (%)							
Lane Group Flow (vph)	544	9	0	80	1382	74	0
Enter Blocked Intersection	No	No	No	No	No	No	No
Lane Alignment	Left	Right	R NA	Left	Left	Left	Right
Median Width(ft)	12				12	12	
Link Offset(ft)	0				0	0	
Crosswalk Width(ft)	16				16	16	
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	9	15		15	9
Turn Type	NA	Perm	pm+pt	pm+pt	NA	Prot	
Protected Phases	2		1	1	6	4	
Permitted Phases		2	6	6			
Detector Phase	2	2	1	1	6	4	
Switch Phase							
Minimum Initial (s)	12.0	12.0	7.0	7.0	12.0	7.0	
Minimum Split (s)	19.0	19.0	14.0	14.0	19.0	14.0	
Total Split (s)	92.0	92.0	14.0	14.0	106.0	14.0	
Total Split (%)	76.7%	76.7%	11.7%	11.7%	88.3%	11.7%	
Maximum Green (s)	85.0	85.0	7.0	7.0	99.0	7.0	
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	
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	
Lead/Lag	Lag	Lag	Lead	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	C-Min	C-Min	None	None	C-Min	None	
Act Effct Green (s)	93.2	93.2		103.4	104.4	9.4	

	→	↘	↙	←	↖	↗	
Lane Group	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Actuated g/C Ratio	0.78	0.78		0.86	0.87	0.08	
v/c Ratio	0.38	0.01		0.11	0.85	0.55	
Control Delay	4.0	0.4		2.0	11.2	69.1	
Queue Delay	0.0	0.0		0.0	0.0	0.0	
Total Delay	4.0	0.4		2.0	11.2	69.1	
LOS	A	A		A	B	E	
Approach Delay	3.9				10.7	69.1	
Approach LOS	A				B	E	
Queue Length 50th (ft)	134	1		10	623	56	
Queue Length 95th (ft)	128	m0		m10	m632	#116	
Internal Link Dist (ft)	478				2042	2008	
Turn Bay Length (ft)				150			
Base Capacity (vph)	1453	1234		713	1627	135	
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	0.37	0.01		0.11	0.85	0.55	

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 89 (74%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.85
 Intersection Signal Delay: 11.0
 Intersection Capacity Utilization 79.6%
 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: Rite Aid Driveway & Idlewild Road

↙ Ø1	→ Ø2 (R)	↖ Ø4
14 s	92 s	14 s
← Ø6 (R)		
105 s		

	→	↘	↶	↙	←	↖	↗
Lane Group	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗		↙	↑	↖	
Traffic Volume (vph)	486	31	1	86	1240	118	61
Future Volume (vph)	486	31	1	86	1240	118	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0		150		0	0
Storage Lanes		1		1		1	0
Taper Length (ft)				150		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850				0.954	
Flt Protected				0.950		0.968	
Satd. Flow (prot)	1863	1583	0	1770	1863	1720	0
Flt Permitted				0.369		0.968	
Satd. Flow (perm)	1863	1583	0	687	1863	1720	0
Right Turn on Red		No					No
Satd. Flow (RTOR)							
Link Speed (mph)	45				45	35	
Link Distance (ft)	558				2122	2088	
Travel Time (s)	8.5				32.2	40.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	540	34	1	96	1378	131	68
Shared Lane Traffic (%)							
Lane Group Flow (vph)	540	34	0	97	1378	199	0
Enter Blocked Intersection	No	No	No	No	No	No	No
Lane Alignment	Left	Right	R NA	Left	Left	Left	Right
Median Width(ft)	12				12	12	
Link Offset(ft)	0				0	0	
Crosswalk Width(ft)	16				16	16	
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	9	15		15	9
Turn Type	NA	Perm	pm+pt	pm+pt	NA	Prot	
Protected Phases	2		1	1	6	4	
Permitted Phases		2	6	6			
Detector Phase	2	2	1	1	6	4	
Switch Phase							
Minimum Initial (s)	12.0	12.0	7.0	7.0	12.0	7.0	
Minimum Split (s)	19.0	19.0	14.0	14.0	19.0	14.0	
Total Split (s)	85.0	85.0	14.0	14.0	99.0	21.0	
Total Split (%)	70.8%	70.8%	11.7%	11.7%	82.5%	17.5%	
Maximum Green (s)	78.0	78.0	7.0	7.0	92.0	14.0	
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	
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	
Lead/Lag	Lag	Lag	Lead	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	C-Min	C-Min	None	None	C-Min	None	
Act Effct Green (s)	80.0	80.0		94.0	94.0	16.0	



Lane Group	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Actuated g/C Ratio	0.67	0.67		0.78	0.78	0.13	
v/c Ratio	0.43	0.03		0.16	0.94	0.87	
Control Delay	4.6	1.0		1.5	10.6	84.8	
Queue Delay	0.0	0.0		0.0	0.0	0.0	
Total Delay	4.6	1.0		1.5	10.6	84.8	
LOS	A	A		A	B	F	
Approach Delay	4.4				10.0	84.8	
Approach LOS	A				A	F	
Queue Length 50th (ft)	16	1		6	311	153	
Queue Length 95th (ft)	118	2		m6	m315	#288	
Internal Link Dist (ft)	478				2042	2008	
Turn Bay Length (ft)				150			
Base Capacity (vph)	1242	1055		619	1459	229	
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	0.43	0.03		0.16	0.94	0.87	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 68 (57%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.94
Intersection Signal Delay: 15.2
Intersection Capacity Utilization 83.9%
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.

Intersection LOS: B
ICU Level of Service E

Splits and Phases: 6: Rite Aid Driveway & Idlewild Road

Ø1	Ø2 (R)	Ø4
14 s	85 s	21 s
Ø6 (R)		
99 s		

	→	↘	↶	↙	←	↖	↗
Lane Group	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗		↖	↑	↖	↗
Traffic Volume (vph)	486	31	1	86	1240	118	61
Future Volume (vph)	486	31	1	86	1240	118	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0		150		0	300
Storage Lanes		1		1		1	1
Taper Length (ft)				150		25	
Lane Util. Factor	1.00	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)	1863	1583	0	1770	1863	1770	1583
Flt Permitted				0.381		0.950	
Satd. Flow (perm)	1863	1583	0	710	1863	1770	1583
Right Turn on Red		No					No
Satd. Flow (RTOR)							
Link Speed (mph)	45				45	35	
Link Distance (ft)	558				2122	2088	
Travel Time (s)	8.5				32.2	40.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	540	34	1	96	1378	131	68
Shared Lane Traffic (%)							
Lane Group Flow (vph)	540	34	0	97	1378	131	68
Enter Blocked Intersection	No	No	No	No	No	No	No
Lane Alignment	Left	Right	R NA	Left	Left	Left	Right
Median Width(ft)	12				12	12	
Link Offset(ft)	0				0	0	
Crosswalk Width(ft)	16				16	16	
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	9	15		15	9
Turn Type	NA	Perm	pm+pt	pm+pt	NA	Prot	Perm
Protected Phases	2		1	1	6	4	
Permitted Phases		2	6	6			4
Detector Phase	2	2	1	1	6	4	4
Switch Phase							
Minimum Initial (s)	12.0	12.0	7.0	7.0	12.0	7.0	7.0
Minimum Split (s)	19.0	19.0	14.0	14.0	19.0	14.0	14.0
Total Split (s)	89.0	89.0	14.0	14.0	103.0	17.0	17.0
Total Split (%)	74.2%	74.2%	11.7%	11.7%	85.8%	14.2%	14.2%
Maximum Green (s)	82.0	82.0	7.0	7.0	96.0	10.0	10.0
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			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Min	C-Min	None	None	C-Min	None	None
Act Effct Green (s)	83.6	83.6		97.6	97.6	12.4	12.4

							
Lane Group	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Actuated g/C Ratio	0.70	0.70		0.81	0.81	0.10	0.10
v/c Ratio	0.42	0.03		0.15	0.91	0.72	0.42
Control Delay	4.4	0.6		1.7	8.4	74.4	59.0
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	4.4	0.6		1.7	8.4	74.4	59.0
LOS	A	A		A	A	E	E
Approach Delay	4.2				8.0	69.1	
Approach LOS	A				A	E	
Queue Length 50th (ft)	136	6		7	230	100	50
Queue Length 95th (ft)	118	0		m7	m193	#198	99
Internal Link Dist (ft)	478				2042	2008	
Turn Bay Length (ft)				150			300
Base Capacity (vph)	1306	1110		657	1523	184	165
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	0.03		0.15	0.90	0.71	0.41

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 63 (53%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.91
 Intersection Signal Delay: 12.4
 Intersection Capacity Utilization 80.1%
 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: Rite Aid Driveway & Idlewild Road

↙ Ø1	→ Ø2 (R)	↖ Ø4
14 s	89 s	17 s
← Ø6 (R)		
103 s		

	→	↘	↖	↙	←	↗	↘
Lane Group	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗		↙	↑	↘	
Traffic Volume (vph)	525	33	1	96	1315	206	81
Future Volume (vph)	525	33	1	96	1315	206	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0		150		0	0
Storage Lanes		1		1		1	0
Taper Length (ft)				150		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850				0.962	
Flt Protected				0.950		0.965	
Satd. Flow (prot)	1863	1583	0	1770	1863	1729	0
Flt Permitted				0.325		0.965	
Satd. Flow (perm)	1863	1583	0	605	1863	1729	0
Right Turn on Red		No					No
Satd. Flow (RTOR)							
Link Speed (mph)	45				45	35	
Link Distance (ft)	558				2122	2088	
Travel Time (s)	8.5				32.2	40.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	583	37	1	107	1461	229	90
Shared Lane Traffic (%)							
Lane Group Flow (vph)	583	37	0	108	1461	319	0
Enter Blocked Intersection	No	No	No	No	No	No	No
Lane Alignment	Left	Right	R NA	Left	Left	Left	Right
Median Width(ft)	12				12	12	
Link Offset(ft)	0				0	0	
Crosswalk Width(ft)	16				16	16	
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	9	15		15	9
Turn Type	NA	Perm	pm+pt	pm+pt	NA	Prot	
Protected Phases	2		1	1	6	4	
Permitted Phases		2	6	6			
Detector Phase	2	2	1	1	6	4	
Switch Phase							
Minimum Initial (s)	12.0	12.0	7.0	7.0	12.0	7.0	
Minimum Split (s)	19.0	19.0	14.0	14.0	19.0	14.0	
Total Split (s)	80.0	80.0	14.0	14.0	94.0	26.0	
Total Split (%)	66.7%	66.7%	11.7%	11.7%	78.3%	21.7%	
Maximum Green (s)	73.0	73.0	7.0	7.0	87.0	19.0	
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	
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	
Lead/Lag	Lag	Lag	Lead	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	C-Min	C-Min	None	None	C-Min	None	
Act Effct Green (s)	75.0	75.0		89.0	89.0	21.0	

							
Lane Group	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Actuated g/C Ratio	0.62	0.62		0.74	0.74	0.18	
v/c Ratio	0.50	0.04		0.20	1.06	1.06	
Control Delay	7.7	1.9		3.9	40.8	115.0	
Queue Delay	0.0	0.0		0.0	0.0	0.0	
Total Delay	7.7	1.9		3.9	40.8	115.0	
LOS	A	A		A	D	F	
Approach Delay	7.4				38.3	115.0	
Approach LOS	A				D	F	
Queue Length 50th (ft)	160	5		18	~1238	~270	
Queue Length 95th (ft)	77	m2		m16	m#1154	#453	
Internal Link Dist (ft)	478				2042	2008	
Turn Bay Length (ft)				150			
Base Capacity (vph)	1164	989		536	1381	302	
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	0.50	0.04		0.20	1.06	1.06	

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 64 (53%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.06
 Intersection Signal Delay: 40.4
 Intersection Capacity Utilization 93.9%
 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: Rite Aid Driveway & Idlewild Road

↖ Ø1	→ Ø2 (R)	↖ Ø4
14 s	80 s	26 s
← Ø6 (R)		
94 s		

	→	↘	↶	↙	←	↖	↗
Lane Group	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗		↘	↑	↘	↗
Traffic Volume (vph)	525	33	1	96	1315	206	81
Future Volume (vph)	525	33	1	96	1315	206	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0		150		0	500
Storage Lanes		1		1		1	1
Taper Length (ft)				150		25	
Lane Util. Factor	1.00	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)	1863	1583	0	1770	1863	1770	1583
Flt Permitted				0.348		0.950	
Satd. Flow (perm)	1863	1583	0	648	1863	1770	1583
Right Turn on Red		No					No
Satd. Flow (RTOR)							
Link Speed (mph)	45				45	35	
Link Distance (ft)	558				2122	2088	
Travel Time (s)	8.5				32.2	40.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	583	37	1	107	1461	229	90
Shared Lane Traffic (%)							
Lane Group Flow (vph)	583	37	0	108	1461	229	90
Enter Blocked Intersection	No	No	No	No	No	No	No
Lane Alignment	Left	Right	R NA	Left	Left	Left	Right
Median Width(ft)	12				12	12	
Link Offset(ft)	0				0	0	
Crosswalk Width(ft)	16				16	16	
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	9	15		15	9
Turn Type	NA	Perm	pm+pt	pm+pt	NA	Prot	Perm
Protected Phases	2		1	1	6	4	
Permitted Phases		2	6	6			4
Detector Phase	2	2	1	1	6	4	4
Switch Phase							
Minimum Initial (s)	12.0	12.0	7.0	7.0	12.0	7.0	7.0
Minimum Split (s)	19.0	19.0	14.0	14.0	19.0	14.0	14.0
Total Split (s)	86.0	86.0	14.0	14.0	100.0	20.0	20.0
Total Split (%)	71.7%	71.7%	11.7%	11.7%	83.3%	16.7%	16.7%
Maximum Green (s)	79.0	79.0	7.0	7.0	93.0	13.0	13.0
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			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Min	C-Min	None	None	C-Min	None	None
Act Effct Green (s)	81.0	81.0		95.0	95.0	15.0	15.0

	→	↘	↶	↙	←	↖	↗
Lane Group	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Actuated g/C Ratio	0.68	0.68		0.79	0.79	0.12	0.12
v/c Ratio	0.46	0.03		0.18	0.99	1.04	0.46
Control Delay	4.1	1.4		1.3	12.2	121.5	57.0
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	4.1	1.4		1.3	12.2	121.5	57.0
LOS	A	A		A	B	F	E
Approach Delay	4.0				11.4	103.3	
Approach LOS	A				B	F	
Queue Length 50th (ft)	25	2		6	347	~191	66
Queue Length 95th (ft)	75	m3		m5	m335	#352	121
Internal Link Dist (ft)	478				2042	2008	
Turn Bay Length (ft)				150			500
Base Capacity (vph)	1257	1068		597	1474	221	197
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	0.46	0.03		0.18	0.99	1.04	0.46

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 66 (55%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.04
 Intersection Signal Delay: 21.3
 Intersection Capacity Utilization 89.0%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service E

~ 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: Rite Aid Driveway & Idlewild Road

↙ Ø1	→ Ø2 (R)	↖ Ø4
14 s	86 s	20 s
← Ø6 (R)		
100 s		

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	141	1963	17	39	2539	57	87	4	38	76	4	47
Future Volume (vph)	141	1963	17	39	2539	57	87	4	38	76	4	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	500		0	300		0	350		250	400		500
Storage Lanes	2		0	1		0	2		1	2		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	0.91	0.91	1.00	0.91	0.91	0.97	1.00	1.00	0.97	1.00	1.00
Frt		0.999			0.997				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	5080	0	1770	5070	0	3433	1863	1583	3433	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5080	0	1770	5070	0	3433	1863	1583	3433	1863	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			35			30	
Link Distance (ft)		1027			2122			2088			883	
Travel Time (s)		15.6			32.2			40.7			20.1	
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)	157	2181	19	43	2821	63	97	4	42	84	4	52
Shared Lane Traffic (%)												
Lane Group Flow (vph)	157	2200	0	43	2884	0	97	4	42	84	4	52
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
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)	14.0	78.0		14.0	78.0		14.0	14.0	14.0	14.0	14.0	14.0
Total Split (%)	11.7%	65.0%		11.7%	65.0%		11.7%	11.7%	11.7%	11.7%	11.7%	11.7%
Maximum Green (s)	7.0	71.0		7.0	71.0		7.0	7.0	7.0	7.0	7.0	7.0
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)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min		None	C-Min		None	None	None	None	None	None
Act Effct Green (s)	11.4	86.0		10.0	81.8		9.0	9.0	15.6	9.0	9.0	14.2



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.10	0.72		0.08	0.68		0.08	0.08	0.13	0.08	0.08	0.12
v/c Ratio	0.48	0.60		0.29	0.83		0.38	0.03	0.20	0.33	0.03	0.28
Control Delay	62.2	5.2		52.7	8.1		57.4	52.0	49.4	56.3	52.0	50.1
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.2	5.2		52.7	8.1		57.4	52.0	49.4	56.3	52.0	50.1
LOS	E	A		D	A		E	D	D	E	D	D
Approach Delay		9.0			8.8			54.9			53.9	
Approach LOS		A			A			D			D	
Queue Length 50th (ft)	64	109		34	151		37	3	31	32	3	38
Queue Length 95th (ft)	104	149		m39	275		65	15	60	58	15	71
Internal Link Dist (ft)		947			2042			2008			803	
Turn Bay Length (ft)	500			300			350		250	400		500
Base Capacity (vph)	327	3642		146	3454		257	139	205	257	139	187
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	0.48	0.60		0.29	0.83		0.38	0.03	0.20	0.33	0.03	0.28

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 117 (98%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.83
Intersection Signal Delay: 11.2
Intersection Capacity Utilization 77.8%
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Intersection LOS: B
ICU Level of Service D

Splits and Phases: 6: Rite Aid Driveway & Idlewild Road

Ø1	Ø2 (R)	Ø3	Ø4
14 s	78 s	14 s	14 s
Ø5	Ø6 (R)	Ø7	Ø8
14 s	78 s	14 s	14 s

Idlewild Mixed Use
6: Rite Aid Driveway & Idlewild Road

2040 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)	141	2002	42	64	2614	57	243	4	103	76	4	47
Future Volume (vph)	141	2002	42	64	2614	57	243	4	103	76	4	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	500		0	300		0	350		250	400		500
Storage Lanes	2		0	1		0	2		1	2		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	0.91	0.91	1.00	0.91	0.91	0.97	1.00	1.00	0.97	1.00	1.00
Frt		0.997			0.997				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	5070	0	1770	5070	0	3433	1863	1583	3433	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5070	0	1770	5070	0	3433	1863	1583	3433	1863	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			35			30	
Link Distance (ft)		1027			2122			2088			883	
Travel Time (s)		15.6			32.2			40.7			20.1	
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)	157	2224	47	71	2904	63	270	4	114	84	4	52
Shared Lane Traffic (%)												
Lane Group Flow (vph)	157	2271	0	71	2967	0	270	4	114	84	4	52
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
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)	14.0	76.0		15.0	77.0		15.0	15.0	15.0	14.0	14.0	14.0
Total Split (%)	11.7%	63.3%		12.5%	64.2%		12.5%	12.5%	12.5%	11.7%	11.7%	11.7%
Maximum Green (s)	7.0	69.0		8.0	70.0		8.0	8.0	8.0	7.0	7.0	7.0
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)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min		None	C-Min		None	None	None	None	None	None
Act Effct Green (s)	11.4	78.9		13.3	80.8		10.0	9.4	19.3	9.6	9.0	14.2

Lanes, Volumes, Timings
RKA

Synchro 9 Report
Page 1

Idlewild Mixed Use
6: Rite Aid Driveway & Idlewild Road

2040 Build
Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.10	0.66		0.11	0.67		0.08	0.08	0.16	0.08	0.08	0.12
v/c Ratio	0.48	0.68		0.36	0.87		0.94	0.03	0.45	0.31	0.03	0.28
Control Delay	62.4	7.1		54.5	8.7		95.6	51.5	51.5	55.3	52.0	50.1
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.4	7.1		54.5	8.7		95.6	51.5	51.5	55.3	52.0	50.1
LOS	E	A		D	A		F	D	D	E	D	D
Approach Delay		10.7			9.8			82.2			53.3	
Approach LOS		B			A			F			D	
Queue Length 50th (ft)	65	119		56	160		109	3	84	31	3	38
Queue Length 95th (ft)	102	191		m61	#384		#193	15	133	58	15	71
Internal Link Dist (ft)		947			2042			2008			803	
Turn Bay Length (ft)	500			300			350		250	400		500
Base Capacity (vph)	327	3331		199	3412		286	155	257	274	139	187
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	0.48	0.68		0.36	0.87		0.94	0.03	0.44	0.31	0.03	0.28

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 3 (3%), Referenced to phase 2:EBT and 6:WBT, Start of Green
 Natural Cycle: 110
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.94
 Intersection Signal Delay: 15.8
 Intersection LOS: B
 Intersection Capacity Utilization 82.3%
 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: Rite Aid Driveway & Idlewild Road

 Ø1	 Ø2 (R)	 Ø3	 Ø4
15 s	76 s	15 s	14 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
14 s	77 s	14 s	15 s

Idlewild Mixed Use
6: Rite Aid Driveway & Idlewild Road

2040 Build with Improvements
Timing Plan: AM Peak Hour

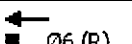
												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	141	2002	42	64	2614	57	243	4	103	76	4	47
Future Volume (vph)	141	2002	42	64	2614	57	243	4	103	76	4	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	500		0	300		0	400		300	400		500
Storage Lanes	2		0	1		0	2		1	2		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	0.91	0.91	1.00	0.91	0.91	0.97	1.00	1.00	0.97	1.00	1.00
Frt		0.997			0.997				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	5070	0	1770	5070	0	3433	1863	1583	3433	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5070	0	1770	5070	0	3433	1863	1583	3433	1863	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			35			30	
Link Distance (ft)		1027			2122			2088			883	
Travel Time (s)		15.6			32.2			40.7			20.1	
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)	157	2224	47	71	2904	63	270	4	114	84	4	52
Shared Lane Traffic (%)												
Lane Group Flow (vph)	157	2271	0	71	2967	0	270	4	114	84	4	52
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
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)	14.0	83.0		16.0	85.0		17.0	17.0	16.0	14.0	14.0	14.0
Total Split (%)	10.8%	63.8%		12.3%	65.4%		13.1%	13.1%	12.3%	10.8%	10.8%	10.8%
Maximum Green (s)	7.0	76.0		9.0	78.0		10.0	10.0	9.0	7.0	7.0	7.0
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)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min		None	C-Min		None	None	None	None	None	None
Act Effect Green (s)	11.8	85.7		14.5	88.4		12.0	9.6	17.9	11.4	9.0	14.6

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.09	0.66		0.11	0.68		0.09	0.07	0.14	0.09	0.07	0.11
v/c Ratio	0.50	0.68		0.36	0.86		0.85	0.03	0.53	0.28	0.03	0.29
Control Delay	70.5	5.7		57.1	9.9		82.6	55.5	59.4	58.5	57.2	55.4
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	70.5	5.7		57.1	9.9		82.6	55.5	59.4	58.5	57.2	55.4
LOS	E	A		E	A		F	E	E	E	E	E
Approach Delay		9.9			11.1			75.5			57.4	
Approach LOS		A			B			E			E	
Queue Length 50th (ft)	0	93		60	215		117	3	91	34	3	41
Queue Length 95th (ft)	#111	142		m71	313		#191	15	140	63	15	77
Internal Link Dist (ft)		947			2042			2008			803	
Turn Bay Length (ft)	500			300			400		300	400		500
Base Capacity (vph)	312	3343		197	3447		316	171	217	300	128	178
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	0.50	0.68		0.36	0.86		0.85	0.02	0.53	0.28	0.03	0.29

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 3 (2%), Referenced to phase 2:EBT and 6:WBT, Start of Green
 Natural Cycle: 110
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.86
 Intersection Signal Delay: 15.8
 Intersection Capacity Utilization 82.3%
 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: Rite Aid Driveway & Idlewild Road

 Ø1	 Ø2 (R)	 Ø3	 Ø4
16 s	83 s	17 s	14 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
14 s	85 s	14 s	17 s

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↙	↑	↖	
Traffic Volume (vph)	987	27	86	852	116	201
Future Volume (vph)	987	27	86	852	116	201
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	150		0	0
Storage Lanes		1	1		1	0
Taper Length (ft)			150		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.914	
Flt Protected			0.950		0.982	
Satd. Flow (prot)	1863	1583	1770	1863	1672	0
Flt Permitted			0.053		0.982	
Satd. Flow (perm)	1863	1583	99	1863	1672	0
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Link Speed (mph)	45			45	35	
Link Distance (ft)	558			2122	2088	
Travel Time (s)	8.5			32.2	40.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	1097	30	96	947	129	223
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1097	30	96	947	352	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Turn Type	NA	Perm	pm+pt	NA	Prot	
Protected Phases	2		1	6	4	
Permitted Phases		2	6			
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)	19.0	19.0	13.0	19.0	12.0	
Total Split (s)	76.0	76.0	13.0	89.0	31.0	
Total Split (%)	63.3%	63.3%	10.8%	74.2%	25.8%	
Maximum Green (s)	69.8	69.8	7.7	82.8	26.1	
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	Lag	Lag	Lead			
Lead-Lag Optimize?						
Vehicle Extension (s)	6.0	6.0	1.0	6.0	1.0	
Minimum Gap (s)	3.0	3.0	0.2	3.0	0.2	
Time Before Reduce (s)	15.0	15.0	0.0	15.0	0.0	



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
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)	71.6	71.6	84.1	84.1	25.9	
Actuated g/C Ratio	0.60	0.60	0.70	0.70	0.22	
v/c Ratio	0.99	0.03	0.55	0.73	0.98	
Control Delay	43.0	7.3	24.6	12.8	88.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	43.0	7.3	24.6	12.8	88.9	
LOS	D	A	C	B	F	
Approach Delay	42.0			13.9	88.9	
Approach LOS	D			B	F	
Queue Length 50th (ft)	878	5	17	540	272	
Queue Length 95th (ft)	#1124	m16	m37	m647	#464	
Internal Link Dist (ft)	478			2042	2008	
Turn Bay Length (ft)			150			
Base Capacity (vph)	1111	943	180	1305	362	
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	0.99	0.03	0.53	0.73	0.97	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 5 (4%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.99
Intersection Signal Delay: 36.9
Intersection Capacity Utilization 89.1%
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.

Intersection LOS: D
ICU Level of Service E

Splits and Phases: 6: Rite Aid Driveway & Idlewild Road

Ø1	Ø2 (R)	Ø4
13 s	76 s	31 s
Ø6 (R)		
89 s		

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↖	↑	↘	
Traffic Volume (vph)	1007	28	88	869	118	205
Future Volume (vph)	1007	28	88	869	118	205
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	150		0	0
Storage Lanes		1	1		1	0
Taper Length (ft)			150		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.914	
Flt Protected			0.950		0.982	
Satd. Flow (prot)	1863	1583	1770	1863	1672	0
Flt Permitted			0.053		0.982	
Satd. Flow (perm)	1863	1583	99	1863	1672	0
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Link Speed (mph)	45			45	35	
Link Distance (ft)	558			2122	2088	
Travel Time (s)	8.5			32.2	40.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	1119	31	98	966	131	228
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1119	31	98	966	359	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Turn Type	NA	Perm	pm+pt	NA	Prot	
Protected Phases	2		1	6	4	
Permitted Phases		2	6			
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)	19.0	19.0	14.0	19.0	14.0	
Total Split (s)	76.0	76.0	14.0	90.0	30.0	
Total Split (%)	63.3%	63.3%	11.7%	75.0%	25.0%	
Maximum Green (s)	69.0	69.0	7.0	83.0	23.0	
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	C-Min	C-Min	None	C-Min	None	
Act Effct Green (s)	71.0	71.0	85.0	85.0	25.0	

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Actuated g/C Ratio	0.59	0.59	0.71	0.71	0.21	
v/c Ratio	1.02	0.03	0.50	0.73	1.03	
Control Delay	52.4	7.5	24.1	9.6	103.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	52.4	7.5	24.1	9.6	103.4	
LOS	D	A	C	A	F	
Approach Delay	51.2			10.9	103.4	
Approach LOS	D			B	F	
Queue Length 50th (ft)	~932	8	16	332	~298	
Queue Length 95th (ft)	#1162	m14	m36	m533	#488	
Internal Link Dist (ft)	478			2042	2008	
Turn Bay Length (ft)			150			
Base Capacity (vph)	1102	936	195	1319	348	
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	1.02	0.03	0.50	0.73	1.03	

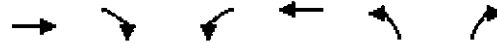
Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 80 (67%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
 Natural Cycle: 130
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.03
 Intersection Signal Delay: 41.8
 Intersection Capacity Utilization 90.5%
 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: Rite Aid Driveway & Idlewild Road

↙ Ø1	→ Ø2 (R)	↖ Ø4
14 s	76 s	30 s
← Ø6 (R)		
90 s		

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↖	↑	↘	↗
Traffic Volume (vph)	1003	98	134	865	161	234
Future Volume (vph)	1003	98	134	865	161	234
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	150		0	0
Storage Lanes		1	1		1	0
Taper Length (ft)			150		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.920	
Frt Protected			0.950		0.980	
Satd. Flow (prot)	1863	1583	1770	1863	1679	0
Frt Permitted			0.056		0.980	
Satd. Flow (perm)	1863	1583	104	1863	1679	0
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Link Speed (mph)	45			45	35	
Link Distance (ft)	558			2122	2088	
Travel Time (s)	8.5			32.2	40.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	1114	109	149	961	179	260
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1114	109	149	961	439	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Turn Type	NA	Perm	pm+pt	NA	Prot	
Protected Phases	2		1	6	4	
Permitted Phases		2	6			
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)	19.0	19.0	14.0	19.0	14.0	
Total Split (s)	72.0	72.0	14.0	86.0	34.0	
Total Split (%)	60.0%	60.0%	11.7%	71.7%	28.3%	
Maximum Green (s)	65.0	65.0	7.0	79.0	27.0	
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	C-Min	C-Min	None	C-Min	None	
Act Effect Green (s)	67.0	67.0	81.0	81.0	29.0	



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Actuated g/C Ratio	0.56	0.56	0.68	0.68	0.24	
v/c Ratio	1.07	0.12	0.76	0.76	1.08	
Control Delay	71.5	9.2	36.6	26.3	112.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	71.5	9.2	36.6	26.3	112.4	
LOS	E	A	D	C	F	
Approach Delay	66.0			27.7	112.4	
Approach LOS	E			C	F	
Queue Length 50th (ft)	~977	37	57	639	~381	
Queue Length 95th (ft)	#1195	m34	m79	m732	#584	
Internal Link Dist (ft)	478			2042	2008	
Turn Bay Length (ft)			150			
Base Capacity (vph)	1040	883	195	1257	405	
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	1.07	0.12	0.76	0.76	1.08	

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 98 (82%), Referenced to phase 2:EBT and 6:WBT, Start of Green
 Natural Cycle: 140
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.08
 Intersection Signal Delay: 58.0
 Intersection Capacity Utilization 96.0%
 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.

Intersection LOS: E
 ICU Level of Service F

Splits and Phases: 6: Rite Aid Driveway & Idlewild Road

Ø1	Ø2 (R)	Ø4
14 s	72 s	34 s
Ø6 (R)		
86 s		

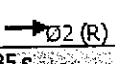
	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↘	↑	↘	↗
Traffic Volume (vph)	1003	98	134	865	161	234
Future Volume (vph)	1003	98	134	865	161	234
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	150		0	300
Storage Lanes		1	1		1	1
Taper Length (ft)			150		25	
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)	1863	1583	1770	1863	1770	1583
Flt Permitted			0.063		0.950	
Satd. Flow (perm)	1863	1583	117	1863	1770	1583
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Link Speed (mph)	45			45	35	
Link Distance (ft)	558			2122	2088	
Travel Time (s)	8.5			32.2	40.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	1114	109	149	961	179	260
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1114	109	149	961	179	260
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Turn Type	NA	Perm	pm+pt	NA	Prot	pm+ov
Protected Phases	2		1	6	4	1
Permitted Phases		2	6			4
Detector Phase	2	2	1	6	4	1
Switch Phase						
Minimum Initial (s)	12.0	12.0	7.0	12.0	7.0	7.0
Minimum Split (s)	19.0	19.0	14.0	19.0	14.0	14.0
Total Split (s)	85.0	85.0	15.0	100.0	20.0	15.0
Total Split (%)	70.8%	70.8%	12.5%	83.3%	16.7%	12.5%
Maximum Green (s)	78.0	78.0	8.0	93.0	13.0	8.0
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	Lag	Lag	Lead			Lead
Lead-Lag Optimize?	Yes	Yes	Yes			Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Min	C-Min	None	C-Min	None	None
Act Effect Green (s)	79.9	79.9	94.6	94.6	15.4	30.1

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Actuated g/C Ratio	0.67	0.67	0.79	0.79	0.13	0.25
v/c Ratio	0.90	0.10	0.66	0.65	0.79	0.66
Control Delay	25.5	5.3	24.5	11.6	75.2	49.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.5	5.3	24.5	11.6	75.2	49.3
LOS	C	A	C	B	E	D
Approach Delay	23.7			13.3	59.9	
Approach LOS	C			B	E	
Queue Length 50th (ft)	874	31	42	424	137	181
Queue Length 95th (ft)	#1072	m20	m70	m513	#257	277
Internal Link Dist (ft)	478			2042	2008	
Turn Bay Length (ft)			150			300
Base Capacity (vph)	1247	1060	230	1477	229	400
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	0.89	0.10	0.65	0.65	0.78	0.65

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 98 (82%), Referenced to phase 2:EBT and 6:WBT, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.90
 Intersection Signal Delay: 25.3
 Intersection Capacity Utilization 81.6%
 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: Rite Aid Driveway & Idlewild Road

 Ø1	 Ø2 (R)	 Ø4
15 s	85 s	20 s
 Ø6 (R)		
100 s		

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↖	↑	↖	↗
Traffic Volume (vph)	1036	54	114	942	263	260
Future Volume (vph)	1036	54	114	942	263	260
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	150		0	0
Storage Lanes		1	1		1	0
Taper Length (ft)			150		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.933	
Flt Protected			0.950		0.975	
Satd. Flow (prot)	1863	1583	1770	1863	1694	0
Flt Permitted			0.060		0.975	
Satd. Flow (perm)	1863	1583	112	1863	1694	0
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Link Speed (mph)	45			45	35	
Link Distance (ft)	558			2122	2088	
Travel Time (s)	8.5			32.2	40.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	1151	60	127	1047	292	289
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1151	60	127	1047	581	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Turn Type	NA	Perm	pm+pt	NA	Prot	
Protected Phases	2		1	6	4	
Permitted Phases		2	6			
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)	19.0	19.0	14.0	19.0	14.0	
Total Split (s)	67.0	67.0	14.0	81.0	39.0	
Total Split (%)	55.8%	55.8%	11.7%	67.5%	32.5%	
Maximum Green (s)	60.0	60.0	7.0	74.0	32.0	
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	C-Min	C-Min	None	C-Min	None	
Act Effct Green (s)	62.0	62.0	76.0	76.0	34.0	

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Actuated g/C Ratio	0.52	0.52	0.63	0.63	0.28	
v/c Ratio	1.20	0.07	0.65	0.89	1.21	
Control Delay	121.3	11.9	27.7	25.5	151.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	121.3	11.9	27.7	25.5	151.8	
LOS	F	B	C	C	F	
Approach Delay	115.8			25.7	151.8	
Approach LOS	F			C	F	
Queue Length 50th (ft)	~1101	16	40	704	~550	
Queue Length 95th (ft)	#1324	m31	m61	m732	#771	
Internal Link Dist (ft)	478			2042	2008	
Turn Bay Length (ft)			150			
Base Capacity (vph)	962	817	195	1179	479	
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	1.20	0.07	0.65	0.89	1.21	

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 97 (81%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.21
 Intersection Signal Delay: 87.2
 Intersection Capacity Utilization 103.9%
 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: Rite Aid Driveway & Idlewild Road

↙ Ø1	→ Ø2 (R)	↖ Ø4
14 s	67 s	39 s
← Ø6 (R)		
81 s		

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↖	↑	↖	↗
Traffic Volume (vph)	1036	54	114	942	263	260
Future Volume (vph)	1036	54	114	942	263	260
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	150		0	500
Storage Lanes		1	1		1	1
Taper Length (ft)			150		25	
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)	1863	1583	1770	1863	1770	1583
Flt Permitted			0.049		0.950	
Satd. Flow (perm)	1863	1583	91	1863	1770	1583
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Link Speed (mph)	45			45	35	
Link Distance (ft)	558			2122	2088	
Travel Time (s)	8.5			32.2	40.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	1151	60	127	1047	292	289
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1151	60	127	1047	292	289
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Turn Type	NA	Perm	pm+pt	NA	Prot	pm+ov
Protected Phases	2		1	6	4	1
Permitted Phases		2	6			4
Detector Phase	2	2	1	6	4	1
Switch Phase						
Minimum Initial (s)	12.0	12.0	7.0	12.0	7.0	7.0
Minimum Split (s)	19.0	19.0	14.0	19.0	14.0	14.0
Total Split (s)	82.0	82.0	14.0	96.0	24.0	14.0
Total Split (%)	68.3%	68.3%	11.7%	80.0%	20.0%	11.7%
Maximum Green (s)	75.0	75.0	7.0	89.0	17.0	7.0
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	Lag	Lag	Lead			Lead
Lead-Lag Optimize?	Yes	Yes	Yes			Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Min	C-Min	None	C-Min	None	None
Act Effct Green (s)	76.9	76.9	90.9	90.9	19.1	33.1

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Actuated g/C Ratio	0.64	0.64	0.76	0.76	0.16	0.28
v/c Ratio	0.96	0.06	0.65	0.74	1.04	0.66
Control Delay	34.5	3.9	28.9	14.2	113.3	47.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.5	3.9	28.9	14.2	113.3	47.1
LOS	C	A	C	B	F	D
Approach Delay	33.0			15.8	80.4	
Approach LOS	C			B	F	
Queue Length 50th (ft)	836	12	44	472	~245	199
Queue Length 95th (ft)	#1157	m9	m67	m632	#420	299
Internal Link Dist (ft)	478			2042	2008	
Turn Bay Length (ft)			150			500
Base Capacity (vph)	1195	1015	194	1412	281	436
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	0.96	0.06	0.65	0.74	1.04	0.66

Intersection Summary:

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 87 (73%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.04
 Intersection Signal Delay: 35.5
 Intersection Capacity Utilization 87.9%
 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: Rite Aid Driveway & Idlewild Road

↖ Ø1	→ Ø2 (R)	↖ Ø4
14 s	82 s	24 s
← Ø6 (R)		
96 s		

Idlewild Mixed Use
6: Rite Aid Driveway & Idlewild Road

2040 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)	174	2483	55	142	2184	59	255	4	114	253	4	158
Future Volume (vph)	174	2483	55	142	2184	59	255	4	114	253	4	158
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	500		0	300		0	350		250	400		500
Storage Lanes	2		0	1		0	2		1	2		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	0.91	0.91	1.00	0.91	0.91	0.97	1.00	1.00	0.97	1.00	1.00
Frt		0.997			0.996				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	5070	0	1770	5065	0	3433	1863	1583	3433	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5070	0	1770	5065	0	3433	1863	1583	3433	1863	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			35			30	
Link Distance (ft)		1027			2122			2088			883	
Travel Time (s)		15.6			32.2			40.7			20.1	
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)	193	2759	61	158	2427	66	283	4	127	281	4	176
Shared Lane Traffic (%)												
Lane Group Flow (vph)	193	2820	0	158	2493	0	283	4	127	281	4	176
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
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)	17.0	82.0		18.0	83.0		16.0	14.0	18.0	16.0	14.0	17.0
Total Split (%)	13.1%	63.1%		13.8%	63.8%		12.3%	10.8%	13.8%	12.3%	10.8%	13.1%
Maximum Green (s)	10.0	75.0		11.0	76.0		9.0	7.0	11.0	9.0	7.0	10.0
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)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min		None	C-Min		None	None	None	None	None	None
Act Effct Green (s)	18.1	83.3		17.9	83.1		11.0	9.0	20.7	11.0	9.0	20.9

Lanes, Volumes, Timings
RKA

Synchro 9 Report
Page 1

Idlewild Mixed Use
6: Rite Aid Driveway & Idlewild Road

2040 No-Build
Timing Plan: PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.14	0.64		0.14	0.64		0.08	0.07	0.16	0.08	0.07	0.16
v/c Ratio	0.40	0.87		0.65	0.77		0.98	0.03	0.50	0.97	0.03	0.69
Control Delay	47.6	14.9		57.5	10.1		106.1	57.2	56.2	104.6	57.2	65.3
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.6	14.9		57.5	10.1		106.1	57.2	56.2	104.6	57.2	65.3
LOS	D	B		E	B		F	E	E	F	E	E
Approach Delay		17.0			13.0			90.3			89.2	
Approach LOS		B			B			F			F	
Queue Length 50th (ft)	74	297		133	203		124	3	99	123	3	141
Queue Length 95th (ft)	m118	560		m#173	m313		#217	15	157	#214	15	214
Internal Link Dist (ft)		947			2042			2008			803	
Turn Bay Length (ft)	500			300			350		250	400		500
Base Capacity (vph)	478	3247		244	3237		290	128	252	290	128	254
Starvation Cap Reductn	0	14		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	0.40	0.87		0.65	0.77		0.98	0.03	0.50	0.97	0.03	0.69

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 79 (61%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.98
Intersection Signal Delay: 25.1
Intersection Capacity Utilization 83.5%
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.

Intersection LOS: C
ICU Level of Service E

Splits and Phases: 6: Rite Aid Driveway & Idlewild Road

Ø1	Ø2 (R)	Ø3	Ø4
18 s	82 s	16 s	14 s
Ø5	Ø6 (R)	Ø7	Ø8
17 s	83 s	16 s	14 s

Idlewild Mixed Use
6: Rite Aid Driveway & Idlewild Road

2040 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)	174	2516	81	168	2261	59	400	4	169	253	4	158
Future Volume (vph)	174	2516	81	168	2261	59	400	4	169	253	4	158
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	500		0	300		0	350		250	400		500
Storage Lanes	2		0	1		0	2		1	2		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	0.91	0.91	1.00	0.91	0.91	0.97	1.00	1.00	0.97	1.00	1.00
Frt		0.995			0.996				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	5060	0	1770	5065	0	3433	1863	1583	3433	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5060	0	1770	5065	0	3433	1863	1583	3433	1863	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			35			30	
Link Distance (ft)		1027			2122			2088			883	
Travel Time (s)		15.6			32.2			40.7			20.1	
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)	193	2796	90	187	2512	66	444	4	188	281	4	176
Shared Lane Traffic (%)												
Lane Group Flow (vph)	193	2886	0	187	2578	0	444	4	188	281	4	176
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
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)	15.0	83.0		20.0	88.0		23.0	14.0	20.0	23.0	14.0	15.0
Total Split (%)	10.7%	59.3%		14.3%	62.9%		16.4%	10.0%	14.3%	16.4%	10.0%	10.7%
Maximum Green (s)	8.0	76.0		13.0	81.0		16.0	7.0	13.0	16.0	7.0	8.0
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)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min		None	C-Min		None	None	None	None	None	None
Act Effct Green (s)	18.3	81.8		22.4	85.9		18.0	9.0	25.2	18.0	9.0	21.1

Lanes, Volumes, Timings
RKA

Synchro 9 Report
Page 1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.13	0.58		0.16	0.61		0.13	0.06	0.18	0.13	0.06	0.15
v/c Ratio	0.43	0.98		0.66	0.83		1.01	0.03	0.66	0.64	0.03	0.74
Control Delay	59.8	24.9		69.2	8.0		104.5	62.2	65.0	65.2	62.2	75.3
Queue Delay	0.0	0.5		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.8	25.4		69.2	8.0		104.5	62.2	65.0	65.2	62.2	75.3
LOS	E	C		E	A		F	E	E	E	E	E
Approach Delay		27.6			12.1			92.5			69.0	
Approach LOS		C			B			F			E	
Queue Length 50th (ft)	75	555		169	195		~213	4	161	127	4	153
Queue Length 95th (ft)	m109	#1094		m#224	m206		#328	17	240	176	17	236
Internal Link Dist (ft)		947			2042			2008			803	
Turn Bay Length (ft)	500			300			350		250	400		500
Base Capacity (vph)	447	2957		282	3109		441	119	284	441	119	238
Starvation Cap Reductn	0	12		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	0.43	0.98		0.66	0.83		1.01	0.03	0.66	0.64	0.03	0.74

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 11 (8%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 140
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.01
Intersection Signal Delay: 30.1
Intersection Capacity Utilization 90.3%
Analysis Period (min) 15
Intersection LOS: C
ICU Level of Service E

~ 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: Rite Aid Driveway & Idlewild Road

20 s	83 s	23 s	14 s
15 s	88 s	23 s	14 s

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	174	2516	81	168	2261	59	400	4	169	253	4	158
Future Volume (vph)	174	2516	81	168	2261	59	400	4	169	253	4	158
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	500		0	300		0	400		300	400		500
Storage Lanes	2		0	1		0	2		1	2		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	0.91	0.91	1.00	0.91	0.91	0.97	1.00	1.00	0.97	1.00	1.00
Frt		0.995			0.996				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	5060	0	1770	5065	0	3433	1863	1583	3433	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5060	0	1770	5065	0	3433	1863	1583	3433	1863	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			35			30	
Link Distance (ft)		1027			2122			2088			883	
Travel Time (s)		15.6			32.2			40.7			20.1	
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)	193	2796	90	187	2512	66	444	4	188	281	4	176
Shared Lane Traffic (%)												
Lane Group Flow (vph)	193	2886	0	187	2578	0	444	4	188	281	4	176
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
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)	15.0	83.0		20.0	88.0		23.0	14.0	20.0	23.0	14.0	15.0
Total Split (%)	10.7%	59.3%		14.3%	62.9%		16.4%	10.0%	14.3%	16.4%	10.0%	10.7%
Maximum Green (s)	8.0	76.0		13.0	81.0		16.0	7.0	13.0	16.0	7.0	8.0
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)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min		None	C-Min		None	None	None	None	None	None
Act Effect Green (s)	18.3	81.8		22.4	85.9		18.0	9.0	25.2	18.0	9.0	21.1

Idlewild Mixed Use
6: Rite Aid Driveway & Idlewild Road

2040 Build with Improvements
Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.13	0.58		0.16	0.61		0.13	0.06	0.18	0.13	0.06	0.15
v/c Ratio	0.43	0.98		0.66	0.83		1.01	0.03	0.66	0.64	0.03	0.74
Control Delay	59.7	25.2		70.2	9.1		104.5	62.2	65.0	65.2	62.2	75.3
Queue Delay	0.0	0.5		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.7	25.7		70.2	9.1		104.5	62.2	65.0	65.2	62.2	75.3
LOS	E	C		E	A		F	E	E	E	E	E
Approach Delay		27.8			13.3			92.5			69.0	
Approach LOS		C			B			F			E	
Queue Length 50th (ft)	75	553		169	195		-213	4	161	127	4	153
Queue Length 95th (ft)	m109	#1094		m#250	208		#328	17	240	176	17	236
Internal Link Dist (ft)		947			2042			2008			803	
Turn Bay Length (ft)	500			300			400		300	400		500
Base Capacity (vph)	447	2957		282	3109		441	119	284	441	119	238
Starvation Cap Reductn	0	12		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	0.43	0.98		0.66	0.83		1.01	0.03	0.66	0.64	0.03	0.74

Intersection Summary

Area Type: Other
 Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 11 (8%), Referenced to phase 2:EBT and 6:WBT, Start of Green
 Natural Cycle: 140
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.01
 Intersection Signal Delay: 30.7
 Intersection Capacity Utilization 90.3%
 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.

Intersection LOS: C
 ICU Level of Service E

Splits and Phases: 6: Rite Aid Driveway & Idlewild Road

 Ø1		 Ø2 (R)		 Ø3		 Ø4	
20 s		83 s		23 s		14 s	
 Ø5		 Ø6 (R)		 Ø7		 Ø8	
15 s		88 s		23 s		14 s	

APPENDIX K

IDLEWILD ROAD AND STEVENS MILL ROAD SYNCHRO REPORTS



												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	369	73	80	948	37	77	87	62	95	159	265
Future Volume (vph)	55	369	73	80	948	37	77	87	62	95	159	265
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
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		0.975			0.994			0.938				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1816	0	1770	1852	0	1770	1747	0	1770	1863	1583
Flt Permitted	0.056			0.402			0.372			0.301		
Satd. Flow (perm)	104	1816	0	749	1852	0	693	1747	0	561	1863	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		2122			2270			5195			4910	
Travel Time (s)		32.2			34.4			78.7			74.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	61	410	81	89	1053	41	86	97	69	106	177	294
Shared Lane Traffic (%)												
Lane Group Flow (vph)	61	491	0	89	1094	0	86	166	0	106	177	294
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	pm+ov
Protected Phases	5	2		1	6		3	8		7	4	5
Permitted Phases	2			6			8			4		4
Detector Phase	5	2		1	6		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
Minimum Split (s)	13.0	18.0		13.0	18.0		13.0	13.0		13.0	13.0	13.0
Total Split (s)	14.0	78.0		13.0	77.0		13.0	16.0		13.0	16.0	14.0
Total Split (%)	11.7%	65.0%		10.8%	64.2%		10.8%	13.3%		10.8%	13.3%	11.7%
Maximum Green (s)	8.4	72.0		7.2	71.0		7.7	10.5		7.9	10.5	8.4
Yellow Time (s)	3.0	4.7		3.0	4.7		3.0	4.5		3.0	4.5	3.0
All-Red Time (s)	2.6	1.3		2.8	1.3		2.3	1.0		2.1	1.0	2.6
Lost Time Adjust (s)	-0.6	-1.0		-0.8	-1.0		-0.3	-0.5		-0.1	-0.5	-0.6
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	6.0		1.0	6.0		1.0	6.0		1.0	6.0	1.0
Minimum Gap (s)	0.2	3.0		0.2	3.0		0.2	3.0		0.2	3.0	0.2
Time Before Reduce (s)	0.0	15.0		0.0	15.0		0.0	5.0		0.0	5.0	0.0

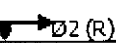
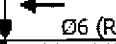
												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time To Reduce (s)	0.0	40.0		0.0	40.0		0.0	15.0		0.0	15.0	0.0
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	None
Act Effct Green (s)	81.9	73.2		80.1	72.3		18.9	11.2		20.1	13.7	27.5
Actuated g/C Ratio	0.68	0.61		0.67	0.60		0.16	0.09		0.17	0.11	0.23
v/c Ratio	0.32	0.44		0.16	0.98		0.48	1.02		0.62	0.83	0.81
Control Delay	26.5	8.2		5.9	46.9		50.4	129.7		57.7	83.9	63.5
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	26.5	8.2		5.9	46.9		50.4	129.7		57.7	83.9	63.5
LOS	C	A		A	D		D	F		E	F	E
Approach Delay		10.2			43.8			102.6			68.7	
Approach LOS		B			D			F			E	
Queue Length 50th (ft)	14	35		18	780		57	~139		70	~148	223
Queue Length 95th (ft)	m69	126		34	#1124		105	#280		#133	#293	#384
Internal Link Dist (ft)		2042			2190			5115			4830	
Turn Bay Length (ft)	250			150			275			135		150
Base Capacity (vph)	196	1107		569	1115		182	163		174	213	365
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	0.31	0.44		0.16	0.98		0.47	1.02		0.61	0.83	0.81

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 93 (78%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
 Natural Cycle: 110
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.02
 Intersection Signal Delay: 47.9
 Intersection Capacity Utilization 88.8%
 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.

Intersection LOS: D
 ICU Level of Service E

Splits and Phases: 7: Stevens Mill Road & Idlewild Road

 Ø1	 Ø2 (R)	 Ø3	 Ø4
13 s	78 s	13 s	16 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
14 s	77 s	13 s	16 s

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	56	376	74	82	967	38	79	89	63	97	162	270
Future Volume (vph)	56	376	74	82	967	38	79	89	63	97	162	270
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
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		0.975			0.994			0.938				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1816	0	1770	1852	0	1770	1747	0	1770	1863	1583
Flt Permitted	0.056			0.387			0.364			0.364		
Satd. Flow (perm)	104	1816	0	721	1852	0	678	1747	0	678	1863	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		2122			2270			5195			4910	
Travel Time (s)		32.2			34.4			78.7			74.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	62	418	82	91	1074	42	88	99	70	108	180	300
Shared Lane Traffic (%)												
Lane Group Flow (vph)	62	500	0	91	1116	0	88	169	0	108	180	300
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	pm+ov
Protected Phases	5	2		1	6		3	8		7	4	5
Permitted Phases	2			6			8			4		4
Detector Phase	5	2		1	6		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
Minimum Split (s)	14.0	19.0		14.0	19.0		14.0	14.0		14.0	14.0	14.0
Total Split (s)	14.0	76.0		14.0	76.0		14.0	16.0		14.0	16.0	14.0
Total Split (%)	11.7%	63.3%		11.7%	63.3%		11.7%	13.3%		11.7%	13.3%	11.7%
Maximum Green (s)	7.0	69.0		7.0	69.0		7.0	9.0		7.0	9.0	7.0
Yellow Time (s)	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
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0		-2.0	-2.0		-2.0	-2.0	-2.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	None
Act Effct Green (s)	80.0	71.0		80.0	71.0		20.0	11.0		20.0	11.0	25.0

Idlewild Mixed Use
7: Stevens Mill Road & Idlewild Road

2020 No-Build
Timing Plan: AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.67	0.59		0.67	0.59		0.17	0.09		0.17	0.09	0.21
v/c Ratio	0.32	0.47		0.16	1.02		0.45	1.06		0.56	1.06	0.91
Control Delay	26.5	5.5		6.2	57.3		47.7	139.0		52.2	137.5	78.7
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	26.5	5.5		6.2	57.3		47.7	139.0		52.2	137.5	78.7
LOS	C	A		A	E		D	F		D	F	E
Approach Delay		7.8			53.5			107.8			91.8	
Approach LOS		A			D			F			F	
Queue Length 50th (ft)	14	24		19	~916		57	~143		71	~153	229
Queue Length 95th (ft)	m57	31		35	#1172		106	#285		125	#299	#395
Internal Link Dist (ft)		2042			2190			5115			4830	
Turn Bay Length (ft)	250			150			275			135		150
Base Capacity (vph)	194	1074		559	1095		194	160		194	170	329
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	0.32	0.47		0.16	1.02		0.45	1.06		0.56	1.06	0.91

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
 Natural Cycle: 120
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.06
 Intersection Signal Delay: 57.6
 Intersection Capacity Utilization 90.1%
 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: 7: Stevens Mill Road & Idlewild Road

Ø1	Ø2 (R)	Ø3	Ø4
14 s	76 s	14 s	16 s
Ø5	Ø6 (R)	Ø7	Ø8
14 s	76 s	14 s	16 s

Idlewild Mixed Use
7: Stevens Mill Road & Idlewild Road

2020 Build Phase 1
Timing Plan: AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱		↰	↱		↰	↱		↰	↱	↰
Traffic Volume (vph)	67	395	85	82	970	38	83	89	63	97	162	274
Future Volume (vph)	67	395	85	82	970	38	83	89	63	97	162	274
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
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		0.974			0.994			0.938				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1814	0	1770	1852	0	1770	1747	0	1770	1863	1583
Flt Permitted	0.056			0.363			0.364			0.364		
Satd. Flow (perm)	104	1814	0	676	1852	0	678	1747	0	678	1863	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		2122			2270			5195			4910	
Travel Time (s)		32.2			34.4			78.7			74.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	74	439	94	91	1078	42	92	99	70	108	180	304
Shared Lane Traffic (%)												
Lane Group Flow (vph)	74	533	0	91	1120	0	92	169	0	108	180	304
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	pm+ov
Protected Phases	5	2		1	6		3	8		7	4	5
Permitted Phases	2			6			8			4		4
Detector Phase	5	2		1	6		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
Minimum Split (s)	14.0	19.0		14.0	19.0		14.0	14.0		14.0	14.0	14.0
Total Split (s)	14.0	76.0		14.0	76.0		14.0	16.0		14.0	16.0	14.0
Total Split (%)	11.7%	63.3%		11.7%	63.3%		11.7%	13.3%		11.7%	13.3%	11.7%
Maximum Green (s)	7.0	69.0		7.0	69.0		7.0	9.0		7.0	9.0	7.0
Yellow Time (s)	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
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0		-2.0	-2.0		-2.0	-2.0	-2.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	None
Act Effct Green (s)	80.0	71.0		80.0	71.0		20.0	11.0		20.0	11.0	25.0

Lanes, Volumes, Timings
RKA

Synchro 9 Report
Page 1

Idlewild Mixed Use

7: Stevens Mill Road & Idlewild Road

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.67	0.59		0.67	0.59		0.17	0.09		0.17	0.09	0.21
v/c Ratio	0.38	0.50		0.17	1.02		0.47	1.06		0.56	1.06	0.92
Control Delay	21.6	24.8		6.3	58.4		48.5	139.0		52.2	137.5	80.8
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	21.6	24.8		6.3	58.4		48.5	139.0		52.2	137.5	80.8
LOS	C	C		A	E		D	F		D	F	F
Approach Delay		24.4			54.4			107.1			92.8	
Approach LOS		C			D			F			F	
Queue Length 50th (ft)	36	269		19	~922		60	~143		71	~153	233
Queue Length 95th (ft)	m40	m510		35	#1180		109	#285		125	#299	#403
Internal Link Dist (ft)		2042			2190			5115			4830	
Turn Bay Length (ft)	250			150			275			135		150
Base Capacity (vph)	194	1073		532	1095		194	160		194	170	329
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	0.38	0.50		0.17	1.02		0.47	1.06		0.56	1.06	0.92

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 45 (38%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 120

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.06

Intersection Signal Delay: 61.3

Intersection Capacity Utilization 90.2%

Analysis Period (min) 15

Intersection LOS: E

ICU Level of Service E

~ 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: 7: Stevens Mill Road & Idlewild Road

Ø1	Ø2 (R)	Ø3	Ø4
14 s	76 s	14 s	16 s
Ø5	Ø6 (R)	Ø7	Ø8
14 s	76 s	14 s	16 s

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	67	395	85	82	970	38	83	89	63	97	162	274
Future Volume (vph)	67	395	85	82	970	38	83	89	63	97	162	274
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	250		0	150		0	275		175	135		150
Storage Lanes	1		0	1		0	1		1	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		0.974			0.994				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1814	0	1770	1852	0	1770	1863	1583	1770	1863	1583
Flt Permitted	0.056			0.363			0.364			0.608		
Satd. Flow (perm)	104	1814	0	676	1852	0	678	1863	1583	1133	1863	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		2122			2270			5195			4910	
Travel Time (s)		32.2			34.4			78.7			74.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	74	439	94	91	1078	42	92	99	70	108	180	304
Shared Lane Traffic (%)												
Lane Group Flow (vph)	74	533	0	91	1120	0	92	99	70	108	180	304
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	5	2		1	6		3	8	1	7	4	5
Permitted Phases	2			6			8		8	4		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)	14.0	76.0		14.0	76.0		14.0	16.0	14.0	14.0	16.0	14.0
Total Split (%)	11.7%	63.3%		11.7%	63.3%		11.7%	13.3%	11.7%	11.7%	13.3%	11.7%
Maximum Green (s)	7.0	69.0		7.0	69.0		7.0	9.0	7.0	7.0	9.0	7.0
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?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min		None	C-Min		None	None	None	None	None	None
Act Efect Green (s)	80.0	71.0		80.0	71.0		20.0	11.0	25.0	20.0	11.0	25.0

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.67	0.59		0.67	0.59		0.17	0.09	0.21	0.17	0.09	0.21
v/c Ratio	0.38	0.50		0.17	1.02		0.47	0.58	0.21	0.46	1.06	0.92
Control Delay	22.0	18.9		6.3	58.4		48.5	66.7	41.4	47.3	137.5	80.8
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.0	18.9		6.3	58.4		48.5	66.7	41.4	47.3	137.5	80.8
LOS	C	B		A	E		D	E	D	D	F	F
Approach Delay		19.3			54.4			53.5			91.9	
Approach LOS		B			D			D			F	
Queue Length 50th (ft)	36	133		19	~922		60	75	45	71	~153	233
Queue Length 95th (ft)	73	413		35	#1180		109	134	88	125	#299	#403
Internal Link Dist (ft)		2042			2190			5115			4830	
Turn Bay Length (ft)	250			150			275		175	135		150
Base Capacity (vph)	194	1073		532	1095		194	170	329	236	170	329
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	0.38	0.50		0.17	1.02		0.47	0.58	0.21	0.46	1.06	0.92

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 47 (39%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 120

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.06

Intersection Signal Delay: 54.7

Intersection Capacity Utilization 90.2%

Analysis Period (min) 15

Intersection LOS: D

ICU Level of Service E

~ 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: 7: Stevens Mill Road & Idlewild Road

 Ø1	 Ø2 (R)	 Ø3	 Ø4
14 s	76 s	14 s	16 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
14 s	76 s	14 s	16 s

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	82	424	100	82	1013	38	104	89	63	97	162	295
Future Volume (vph)	82	424	100	82	1013	38	104	89	63	97	162	295
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
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
Frnt		0.971			0.995			0.938				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1809	0	1770	1853	0	1770	1747	0	1770	1863	1583
Flt Permitted	0.056			0.339			0.400			0.400		
Satd. Flow (perm)	104	1809	0	631	1853	0	745	1747	0	745	1863	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		2122			2270			5195			4910	
Travel Time (s)		32.2			34.4			78.7			74.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	91	471	111	91	1126	42	116	99	70	108	180	328
Shared Lane Traffic (%)												
Lane Group Flow (vph)	91	582	0	91	1168	0	116	169	0	108	180	328
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	pm+ov
Protected Phases	5	2		1	6		3	8		7	4	5
Permitted Phases	2			6			8			4		4
Detector Phase	5	2		1	6		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
Minimum Split (s)	14.0	19.0		14.0	19.0		14.0	14.0		14.0	14.0	14.0
Total Split (s)	15.0	77.0		14.0	76.0		14.0	15.0		14.0	15.0	15.0
Total Split (%)	12.5%	64.2%		11.7%	63.3%		11.7%	12.5%		11.7%	12.5%	12.5%
Maximum Green (s)	8.0	70.0		7.0	69.0		7.0	8.0		7.0	8.0	8.0
Yellow Time (s)	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
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0		-2.0	-2.0		-2.0	-2.0	-2.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	None
Act Efect Green (s)	82.0	72.0		80.0	71.0		19.0	10.0		19.0	10.0	25.0

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.68	0.60		0.67	0.59		0.16	0.08		0.16	0.08	0.21
v/c Ratio	0.44	0.54		0.18	1.07		0.60	1.17		0.56	1.16	1.00
Control Delay	23.0	18.4		6.1	71.8		55.3	174.0		53.1	170.3	96.8
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	23.0	18.4		6.1	71.8		55.3	174.0		53.1	170.3	96.8
LOS	C	B		A	E		E	F		D	F	F
Approach Delay		19.1			67.1			125.7			110.6	
Approach LOS		B			E			F			F	
Queue Length 50th (ft)	46	154		19	~999		78	~155		72	~165	256
Queue Length 95th (ft)	m76	m405		34	#1257		135	#297		127	#312	#447
Internal Link Dist (ft)		2042			2190			5115			4830	
Turn Bay Length (ft)	250			150			275			135		150
Base Capacity (vph)	209	1085		506	1096		194	145		194	155	329
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	0.44	0.54		0.18	1.07		0.60	1.17		0.56	1.16	1.00

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 49 (41%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 140

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.17

Intersection Signal Delay: 71.0

Intersection LOS: E

Intersection Capacity Utilization 92.5%

ICU Level of Service F

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

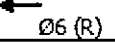
Queue shown is maximum after two cycles.

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: 7: Stevens Mill Road & Idlewild Road

 Ø1	 Ø2 (R)	 Ø3	 Ø4
14 s	77 s	14 s	15 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
15 s	76 s	14 s	15 s

Idlewild Mixed Use
7: Stevens Mill Road & Idlewild Road

2020 Build with Improvements
Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	82	424	100	82	1013	38	104	89	63	97	162	295
Future Volume (vph)	82	424	100	82	1013	38	104	89	63	97	162	295
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	250		0	150		0	275		175	135		150
Storage Lanes	1		0	1		0	1		1	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		0.971			0.995				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1809	0	1770	1853	0	1770	1863	1583	1770	1863	1583
Flt Permitted	0.056			0.339			0.400			0.596		
Satd. Flow (perm)	104	1809	0	631	1853	0	745	1863	1583	1110	1863	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		2122			2270			5195			4910	
Travel Time (s)		32.2			34.4			78.7			74.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	91	471	111	91	1126	42	116	99	70	108	180	328
Shared Lane Traffic (%)												
Lane Group Flow (vph)	91	582	0	91	1168	0	116	99	70	108	180	328
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	5	2		1	6		3	8	1	7	4	5
Permitted Phases	2			6			8		8	4		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)	15.0	77.0		14.0	76.0		14.0	15.0	14.0	14.0	15.0	15.0
Total Split (%)	12.5%	64.2%		11.7%	63.3%		11.7%	12.5%	11.7%	11.7%	12.5%	12.5%
Maximum Green (s)	8.0	70.0		7.0	69.0		7.0	8.0	7.0	7.0	8.0	8.0
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?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min		None	C-Min		None	None	None	None	None	None
Act Effct Green (s)	82.0	72.0		80.0	71.0		19.0	10.0	24.0	19.0	10.0	25.0

Lanes, Volumes, Timings
RKA

Synchro 9 Report
Page 1

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.68	0.60		0.67	0.59		0.16	0.08	0.20	0.16	0.08	0.21
v/c Ratio	0.44	0.54		0.18	1.07		0.60	0.64	0.22	0.48	1.16	1.00
Control Delay	23.0	23.9		6.1	71.8		55.3	72.4	42.4	49.1	170.3	96.8
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.0	23.9		6.1	71.8		55.3	72.4	42.4	49.1	170.3	96.8
LOS	C	C		A	E		E	E	D	D	F	F
Approach Delay		23.8			67.1			58.1			109.9	
Approach LOS		C			E			E			F	
Queue Length 50th (ft)	43	283		19	~999		78	76	46	72	~165	256
Queue Length 95th (ft)	56	565		34	#1257		135	#149	89	127	#312	#447
Internal Link Dist (ft)		2042			2190			5115			4830	
Turn Bay Length (ft)	250			150			275		175	135		150
Base Capacity (vph)	209	1085		506	1096		194	155	316	225	155	329
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	0.44	0.54		0.18	1.07		0.60	0.64	0.22	0.48	1.16	1.00

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 44 (37%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 140

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.16

Intersection Signal Delay: 65.2

Intersection LOS: E

Intersection Capacity Utilization 92.5%

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: 7: Stevens Mill Road & Idlewild Road

			
14 s	77 s	14 s	15 s
			
15 s	76 s	14 s	15 s

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	178	1800	118	132	2267	253	170	192	105	286	261	237
Future Volume (vph)	178	1800	118	132	2267	253	170	192	105	286	261	237
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	500		500	400		400	300		200	500		500
Storage Lanes	2		1	1		1	1		1	2		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	5085	1583	1770	5085	1583	1770	3539	1583	3433	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5085	1583	1770	5085	1583	1770	3539	1583	3433	3539	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		2122			1573			5195			4910	
Travel Time (s)		32.2			23.8			78.7			74.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	198	2000	131	147	2519	281	189	213	117	318	290	263
Shared Lane Traffic (%)												
Lane Group Flow (vph)	198	2000	131	147	2519	281	189	213	117	318	290	263
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8	1	7	4	5
Permitted Phases			2			6			8			4
Detector Phase	5	2	3	1	6	7	3	8	1	7	4	5
Switch Phase												
Minimum Initial (s)	7.0	12.0	7.0	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	14.0	19.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
Total Split (s)	14.0	66.0	20.0	18.0	70.0	19.0	20.0	17.0	18.0	19.0	16.0	14.0
Total Split (%)	11.7%	55.0%	16.7%	15.0%	58.3%	15.8%	16.7%	14.2%	15.0%	15.8%	13.3%	11.7%
Maximum Green (s)	7.0	59.0	13.0	11.0	63.0	12.0	13.0	10.0	11.0	12.0	9.0	7.0
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	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	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	-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	5.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min	None	None	C-Min	None	None	None	None	None	None	None
Act Effct Green (s)	9.0	61.1	81.1	12.9	65.0	84.0	15.0	12.0	29.9	14.0	11.0	25.0

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.08	0.51	0.68	0.11	0.54	0.70	0.12	0.10	0.25	0.12	0.09	0.21
v/c Ratio	0.77	0.77	0.12	0.78	0.91	0.25	0.86	0.60	0.30	0.80	0.90	0.80
Control Delay	61.0	34.5	7.6	79.2	31.4	7.3	84.3	59.5	39.0	67.0	83.5	64.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.0	34.5	7.6	79.2	31.4	7.3	84.3	59.5	39.0	67.0	83.5	64.1
LOS	E	C	A	E	C	A	F	E	D	E	F	E
Approach Delay		35.2			31.5			63.9			71.6	
Approach LOS		D			C			E			E	
Queue Length 50th (ft)	77	397	30	112	622	71	146	84	74	125	118	195
Queue Length 95th (ft)	#137	453	57	#216	702	108	#276	126	128	#191	#201	#327
Internal Link Dist (ft)		2042			1493			5115			4830	
Turn Bay Length (ft)	500		500	400		400	300		200	500		500
Base Capacity (vph)	257	2590	1070	191	2754	1108	221	353	395	400	324	329
Starvation Cap Reductn	0	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	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.77	0.77	0.12	0.77	0.91	0.25	0.86	0.60	0.30	0.80	0.90	0.80

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 108 (90%), 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: 40.6
 Intersection Capacity Utilization 82.9%
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Intersection LOS: D
 ICU Level of Service E

Splits and Phases: 7: Stevens Mill Road & Idlewild Road

			
Ø1	Ø2 (R)	Ø3	Ø4
18 s	66 s	20 s	16 s
			
Ø5	Ø6 (R)	Ø7	Ø8
14 s	70 s	19 s	17 s

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	204	1852	144	132	2317	253	195	192	105	286	261	262
Future Volume (vph)	204	1852	144	132	2317	253	195	192	105	286	261	262
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	500		500	400		400	300		200	500		500
Storage Lanes	2		1	1		1	1		1	2		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	5085	1583	1770	5085	1583	1770	3539	1583	3433	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5085	1583	1770	5085	1583	1770	3539	1583	3433	3539	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		2122			1573			5195			4910	
Travel Time (s)		32.2			23.8			78.7			74.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	227	2058	160	147	2574	281	217	213	117	318	290	291
Shared Lane Traffic (%)												
Lane Group Flow (vph)	227	2058	160	147	2574	281	217	213	117	318	290	291
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8	1	7	4	5
Permitted Phases			2			6			8			4
Detector Phase	5	2	3	1	6	7	3	8	1	7	4	5
Switch Phase												
Minimum Initial (s)	7.0	12.0	7.0	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	14.0	19.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
Total Split (s)	14.0	66.0	21.0	18.0	70.0	20.0	21.0	16.0	18.0	20.0	15.0	14.0
Total Split (%)	11.7%	55.0%	17.5%	15.0%	58.3%	16.7%	17.5%	13.3%	15.0%	16.7%	12.5%	11.7%
Maximum Green (s)	7.0	59.0	14.0	11.0	63.0	13.0	14.0	9.0	11.0	13.0	8.0	7.0
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	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	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	-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	5.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min	None	None	C-Min	None	None	None	None	None	None	None
Act Effct Green (s)	9.0	61.1	82.1	12.9	65.0	84.8	16.0	11.2	29.0	14.8	10.0	24.0

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.08	0.51	0.68	0.11	0.54	0.71	0.13	0.09	0.24	0.12	0.08	0.20
v/c Ratio	0.88	0.79	0.15	0.78	0.93	0.25	0.92	0.65	0.31	0.75	0.99	0.92
Control Delay	72.1	35.1	8.2	79.2	33.4	6.9	92.8	62.5	39.9	62.6	104.3	81.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	72.1	35.1	8.2	79.2	33.4	6.9	92.8	62.5	39.9	62.6	104.3	81.7
LOS	E	D	A	E	C	A	F	E	D	E	F	F
Approach Delay		36.7			33.1			69.7			82.2	
Approach LOS		D			C			E			F	
Queue Length 50th (ft)	91	426	40	112	649	69	168	85	75	124	120	223
Queue Length 95th (ft)	#164	516	m73	#216	734	104	#318	127	130	#175	#213	#391
Internal Link Dist (ft)		2042			1493			5115			4830	
Turn Bay Length (ft)	500		500	400		400	300		200	500		500
Base Capacity (vph)	257	2590	1083	191	2754	1121	236	329	384	429	294	316
Starvation Cap Reductn	0	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	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.88	0.79	0.15	0.77	0.93	0.25	0.92	0.65	0.30	0.74	0.99	0.92

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: 0.99

Intersection Signal Delay: 43.7

Intersection LOS: D

Intersection Capacity Utilization 85.3%

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: 7: Stevens Mill Road & Idlewild Road

 Ø1	 Ø2 (R)	 Ø3	 Ø4
18 s	66 s	21 s	15 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
14 s	70 s	20 s	16 s

Idlewild Mixed Use
7: Stevens Mill Road & Idlewild Road

2040 Build with Improvements
Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	204	1852	144	132	2317	253	195	192	105	286	261	262
Future Volume (vph)	204	1852	144	132	2317	253	195	192	105	286	261	262
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	500		500	425		400	225		200	500		500
Storage Lanes	2		1	1		1	2		1	2		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	5085	1583	1770	5085	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5085	1583	1770	5085	1583	3433	3539	1583	3433	3539	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		2122			1573			5195			4910	
Travel Time (s)		32.2			23.8			78.7			74.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	227	2058	160	147	2574	281	217	213	117	318	290	291
Shared Lane Traffic (%)												
Lane Group Flow (vph)	227	2058	160	147	2574	281	217	213	117	318	290	291
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8	1	7	4	5
Permitted Phases			2			6			8			4
Detector Phase	5	2	3	1	6	7	3	8	1	7	4	5
Switch Phase												
Minimum Initial (s)	7.0	12.0	7.0	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	14.0	19.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
Total Split (s)	18.0	72.0	16.0	23.0	77.0	20.0	16.0	15.0	23.0	20.0	19.0	18.0
Total Split (%)	13.8%	55.4%	12.3%	17.7%	59.2%	15.4%	12.3%	11.5%	17.7%	15.4%	14.6%	13.8%
Maximum Green (s)	11.0	65.0	9.0	16.0	70.0	13.0	9.0	8.0	16.0	13.0	12.0	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	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	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	-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	5.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min	None	None	C-Min	None	None	None	None	None	None	None
Act Effect Green (s)	12.8	68.7	84.7	16.3	72.2	92.2	11.0	10.0	31.3	15.0	14.0	31.8

Lanes, Volumes, Timings
RKA

Synchro 9 Report
Page 1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.10	0.53	0.65	0.13	0.56	0.71	0.08	0.08	0.24	0.12	0.11	0.24
v/c Ratio	0.67	0.77	0.16	0.66	0.91	0.25	0.75	0.78	0.31	0.80	0.76	0.75
Control Delay	52.6	29.5	9.7	68.6	32.2	7.4	74.5	78.9	42.4	72.0	70.0	58.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.6	29.5	9.7	68.6	32.2	7.4	74.5	78.9	42.4	72.0	70.0	58.9
LOS	D	C	A	E	C	A	E	E	D	E	E	E
Approach Delay		30.3			31.7			69.4			67.1	
Approach LOS		C			C			E			E	
Queue Length 50th (ft)	95	389	44	118	689	76	93	94	80	136	126	228
Queue Length 95th (ft)	141	469	m80	192	768	112	#149	#155	137	#204	#186	#343
Internal Link Dist (ft)		2042			1493			5115			4830	
Turn Bay Length (ft)	500		500	425		400	225		200	500		500
Base Capacity (vph)	343	2685	1030	245	2823	1122	290	272	401	396	381	389
Starvation Cap Reductn	0	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	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.66	0.77	0.16	0.60	0.91	0.25	0.75	0.78	0.29	0.80	0.76	0.75

Intersection Summary

Area Type: Other

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 124 (95%), 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: 38.8

Intersection LOS: D

Intersection Capacity Utilization 81.3%

ICU Level of Service D

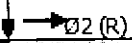
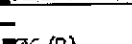
Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

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

Splits and Phases: 7: Stevens Mill Road & Idlewild Road

 Ø1	 Ø2 (R)	 Ø3	 Ø4
23 s	72 s	16 s	19 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
18 s	77 s	20 s	15 s

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	209	891	88	41	684	121	82	124	98	69	88	172
Future Volume (vph)	209	891	88	41	684	121	82	124	98	69	88	172
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
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		0.986			0.978			0.934				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1837	0	1770	1822	0	1770	1740	0	1770	1863	1583
Flt Permitted	0.075			0.062			0.604			0.262		
Satd. Flow (perm)	140	1837	0	115	1822	0	1125	1740	0	488	1863	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		2122			2270			5195			4910	
Travel Time (s)		32.2			34.4			78.7			74.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	232	990	98	46	760	134	91	138	109	77	98	191
Shared Lane Traffic (%)												
Lane Group Flow (vph)	232	1088	0	46	894	0	91	247	0	77	98	191
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	pm+ov
Protected Phases	5	2		1	6		3	8		7	4	5
Permitted Phases	2			6			8			4		4
Detector Phase	5	2		1	6		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
Minimum Split (s)	13.0	18.0		13.0	18.0		13.0	13.0		13.0	13.0	13.0
Total Split (s)	15.0	73.0		13.0	71.0		13.0	21.0		13.0	21.0	15.0
Total Split (%)	12.5%	60.8%		10.8%	59.2%		10.8%	17.5%		10.8%	17.5%	12.5%
Maximum Green (s)	9.4	67.0		7.2	65.0		7.7	15.5		7.9	15.5	9.4
Yellow Time (s)	3.0	4.7		3.0	4.7		3.0	4.5		3.0	4.5	3.0
All-Red Time (s)	2.6	1.3		2.8	1.3		2.3	1.0		2.1	1.0	2.6
Lost Time Adjust (s)	-0.6	-1.0		-0.8	-1.0		-0.3	-0.5		-0.1	-0.5	-0.6
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	6.0		1.0	6.0		1.0	6.0		1.0	6.0	1.0
Minimum Gap (s)	0.2	3.0		0.2	3.0		0.2	3.0		0.2	3.0	0.2
Time Before Reduce (s)	0.0	15.0		0.0	15.0		0.0	5.0		0.0	5.0	0.0

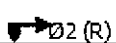
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time To Reduce (s)	0.0	40.0		0.0	40.0		0.0	15.0		0.0	15.0	0.0
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	None
Act Effct Green (s)	78.8	70.8		73.8	66.0		25.1	18.8		23.9	16.3	31.3
Actuated g/C Ratio	0.66	0.59		0.62	0.55		0.21	0.16		0.20	0.14	0.26
v/c Ratio	1.02	1.00		0.26	0.89		0.33	0.90		0.43	0.39	0.46
Control Delay	69.7	36.4		10.8	36.8		40.3	85.9		44.2	52.5	41.8
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	69.7	36.4		10.8	36.8		40.3	85.9		44.2	52.5	41.8
LOS	E	D		B	D		D	F		D	D	D
Approach Delay		42.3			35.5			73.7			45.2	
Approach LOS		D			D			E			D	
Queue Length 50th (ft)	~116	~921		11	586		57	~208		48	70	125
Queue Length 95th (ft)	m#127	m#949		23	#880		103	#377		90	126	200
Internal Link Dist (ft)		2042			2190			5115			4830	
Turn Bay Length (ft)	250			150			275			135		150
Base Capacity (vph)	228	1083		181	1002		279	273		184	252	412
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	1.02	1.00		0.25	0.89		0.33	0.90		0.42	0.39	0.46

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 60 (50%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 130
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.02
Intersection Signal Delay: 44.1
Intersection Capacity Utilization 93.1%
Analysis Period (min) 15
Intersection LOS: D
ICU Level of Service F

~ 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: 7: Stevens Mill Road & Idlewild Road

 Ø1	 Ø2 (R)	 Ø3	 Ø4
13 s	73 s	13 s	21 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
15 s	71 s	13 s	21 s

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	213	909	90	42	698	123	84	126	100	70	90	175
Future Volume (vph)	213	909	90	42	698	123	84	126	100	70	90	175
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
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		0.986			0.977			0.934				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1837	0	1770	1820	0	1770	1740	0	1770	1863	1583
Flt Permitted	0.061			0.064			0.602			0.254		
Satd. Flow (perm)	114	1837	0	119	1820	0	1121	1740	0	473	1863	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		2122			2270			5195			4910	
Travel Time (s)		32.2			34.4			78.7			74.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	237	1010	100	47	776	137	93	140	111	78	100	194
Shared Lane Traffic (%)												
Lane Group Flow (vph)	237	1110	0	47	913	0	93	251	0	78	100	194
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	pm+ov
Protected Phases	5	2		1	6		3	8		7	4	5
Permitted Phases	2			6			8			4		4
Detector Phase	5	2		1	6		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
Minimum Split (s)	14.0	19.0		14.0	19.0		14.0	14.0		14.0	14.0	14.0
Total Split (s)	16.0	71.0		14.0	69.0		14.0	21.0		14.0	21.0	16.0
Total Split (%)	13.3%	59.2%		11.7%	57.5%		11.7%	17.5%		11.7%	17.5%	13.3%
Maximum Green (s)	9.0	64.0		7.0	62.0		7.0	14.0		7.0	14.0	9.0
Yellow Time (s)	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
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0		-2.0	-2.0		-2.0	-2.0	-2.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	None
Act Effct Green (s)	77.7	68.9		73.0	64.0		25.9	18.7		24.9	15.9	32.0

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.65	0.57		0.61	0.53		0.22	0.16		0.21	0.13	0.27
v/c Ratio	1.05	1.05		0.24	0.94		0.32	0.92		0.40	0.40	0.46
Control Delay	69.6	49.8		10.5	44.9		39.1	89.7		42.0	53.1	41.0
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	69.6	49.8		10.5	44.9		39.1	89.7		42.0	53.1	41.0
LOS	E	D		B	D		D	F		D	D	D
Approach Delay		53.3			43.2			76.0			44.5	
Approach LOS		D			D			E			D	
Queue Length 50th (ft)	~146	~984		11	636		57	~218		48	72	126
Queue Length 95th (ft)	m#139	m#951		25	#938		104	#385		90	128	200
Internal Link Dist (ft)		2042			2190			5115			4830	
Turn Bay Length (ft)	250			150			275			135		150
Base Capacity (vph)	226	1054		196	970		291	272		195	248	422
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	1.05	1.05		0.24	0.94		0.32	0.92		0.40	0.40	0.46

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 22 (18%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
 Natural Cycle: 140
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.05
 Intersection Signal Delay: 51.6
 Intersection Capacity Utilization 94.4%
 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.

Intersection LOS: D
 ICU Level of Service F

Splits and Phases: 7: Stevens Mill Road & Idlewild Road

 Ø1	 Ø2 (R)	 Ø3	 Ø4
14 s	71 s	14 s	21 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
16 s	69 s	14 s	21 s

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	220	920	97	42	716	123	96	126	100	70	90	187
Future Volume (vph)	220	920	97	42	716	123	96	126	100	70	90	187
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
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		0.986			0.978			0.934				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1837	0	1770	1822	0	1770	1740	0	1770	1863	1583
Flt Permitted	0.060			0.064			0.595			0.244		
Satd. Flow (perm)	112	1837	0	119	1822	0	1108	1740	0	455	1863	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		2122			2270			5195			4910	
Travel Time (s)		32.2			34.4			78.7			74.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	244	1022	108	47	796	137	107	140	111	78	100	208
Shared Lane Traffic (%)												
Lane Group Flow (vph)	244	1130	0	47	933	0	107	251	0	78	100	208
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	pm+ov
Protected Phases	5	2		1	6		3	8		7	4	5
Permitted Phases	2			6			8			4		4
Detector Phase	5	2		1	6		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
Minimum Split (s)	14.0	19.0		14.0	19.0		14.0	14.0		14.0	14.0	14.0
Total Split (s)	17.0	72.0		14.0	69.0		14.0	20.0		14.0	20.0	17.0
Total Split (%)	14.2%	60.0%		11.7%	57.5%		11.7%	16.7%		11.7%	16.7%	14.2%
Maximum Green (s)	10.0	65.0		7.0	62.0		7.0	13.0		7.0	13.0	10.0
Yellow Time (s)	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
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0		-2.0	-2.0		-2.0	-2.0	-2.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	None
Act Effct Green (s)	79.4	69.8		73.0	64.0		25.0	17.8		24.0	15.0	32.0

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.66	0.58		0.61	0.53		0.21	0.15		0.20	0.12	0.27
v/c Ratio	1.02	1.06		0.24	0.96		0.38	0.97		0.41	0.43	0.49
Control Delay	69.7	45.5		10.3	48.5		41.5	102.2		43.3	54.9	41.9
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	69.7	45.5		10.3	48.5		41.5	102.2		43.3	54.9	41.9
LOS	E	D		B	D		D	F		D	D	D
Approach Delay		49.8			46.6			84.0			45.6	
Approach LOS		D			D			F			D	
Queue Length 50th (ft)	~155	~993		11	664		67	~229		48	73	136
Queue Length 95th (ft)	m138	m#867		24	#969		118	#397		91	129	214
Internal Link Dist (ft)		2042			2190			5115			4830	
Turn Bay Length (ft)	250			150			275			135		150
Base Capacity (vph)	239	1068		196	971		280	258		189	232	422
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	1.02	1.06		0.24	0.96		0.38	0.97		0.41	0.43	0.49

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 14 (12%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.06
 Intersection Signal Delay: 52.2
 Intersection Capacity Utilization 95.4%
 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: 7: Stevens Mill Road & Idlewild Road

 Ø1	 Ø2 (R)	 Ø3	 Ø4
14 s	72 s	14 s	20 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
17 s	69 s	14 s	20 s

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	220	920	97	42	716	123	96	126	100	70	90	187
Future Volume (vph)	220	920	97	42	716	123	96	126	100	70	90	187
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	250		0	150		0	275		175	135		150
Storage Lanes	1		0	1		0	1		1	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		0.986			0.978				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1837	0	1770	1822	0	1770	1863	1583	1770	1863	1583
Flt Permitted	0.074			0.059			0.525			0.493		
Satd. Flow (perm)	138	1837	0	110	1822	0	978	1863	1583	918	1863	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		2122			2270			5195			4910	
Travel Time (s)		32.2			34.4			78.7			74.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	244	1022	108	47	796	137	107	140	111	78	100	208
Shared Lane Traffic (%)												
Lane Group Flow (vph)	244	1130	0	47	933	0	107	140	111	78	100	208
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	5	2		1	6		3	8	1	7	4	5
Permitted Phases	2			6			8		8	4		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)	18.0	78.0		14.0	74.0		14.0	14.0	14.0	14.0	14.0	18.0
Total Split (%)	15.0%	65.0%		11.7%	61.7%		11.7%	11.7%	11.7%	11.7%	11.7%	15.0%
Maximum Green (s)	11.0	71.0		7.0	67.0		7.0	7.0	7.0	7.0	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	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min		None	C-Min		None	None	None	None	None	None
Act Effct Green (s)	85.8	73.0		78.2	69.2		19.0	11.8	25.8	18.0	9.0	26.8

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.72	0.61		0.65	0.58		0.16	0.10	0.22	0.15	0.08	0.22
v/c Ratio	0.90	1.01		0.24	0.89		0.50	0.77	0.33	0.39	0.72	0.59
Control Delay	56.0	40.1		9.0	34.3		50.9	80.8	44.7	47.2	82.2	49.4
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.0	40.1		9.0	34.3		50.9	80.8	44.7	47.2	82.2	49.4
LOS	E	D		A	C		D	F	D	D	F	D
Approach Delay		42.9			33.1			60.7			57.5	
Approach LOS		D			C			E			E	
Queue Length 50th (ft)	134	~683		9	598		72	~111	76	52	77	145
Queue Length 95th (ft)	m#178	m#1144		20	#908		127	#245	132	98	#163	228
Internal Link Dist (ft)		2042			2190			5115			4830	
Turn Bay Length (ft)	250			150			275		175	135		150
Base Capacity (vph)	275	1117		196	1050		214	183	340	201	139	356
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	0.89	1.01		0.24	0.89		0.50	0.77	0.33	0.39	0.72	0.58

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 11 (9%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.01

Intersection Signal Delay: 43.7

Intersection LOS: D

Intersection Capacity Utilization 89.3%

ICU Level of Service E

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

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

Splits and Phases: 7: Stevens Mill Road & Idlewild Road

Ø1	Ø2 (R)	Ø3	Ø4
14 s	78 s	14 s	14 s
Ø5	Ø6 (R)	Ø7	Ø8
18 s	74 s	14 s	14 s

Idlewild Mixed Use
7: Stevens Mill Road & Idlewild Road

2020 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)	235	949	112	42	745	123	110	126	100	70	90	201
Future Volume (vph)	235	949	112	42	745	123	110	126	100	70	90	201
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
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		0.984			0.979			0.934				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1833	0	1770	1824	0	1770	1740	0	1770	1863	1583
Flt Permitted	0.059			0.063			0.587			0.260		
Satd. Flow (perm)	110	1833	0	117	1824	0	1093	1740	0	484	1863	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		2122			2270			5195			4910	
Travel Time (s)		32.2			34.4			78.7			74.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	261	1054	124	47	828	137	122	140	111	78	100	223
Shared Lane Traffic (%)												
Lane Group Flow (vph)	261	1178	0	47	965	0	122	251	0	78	100	223
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	pm+ov
Protected Phases	5	2		1	6		3	8		7	4	5
Permitted Phases	2			6			8			4		4
Detector Phase	5	2		1	6		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
Minimum Split (s)	14.0	19.0		14.0	19.0		14.0	14.0		14.0	14.0	14.0
Total Split (s)	17.0	73.0		14.0	70.0		14.0	19.0		14.0	19.0	17.0
Total Split (%)	14.2%	60.8%		11.7%	58.3%		11.7%	15.8%		11.7%	15.8%	14.2%
Maximum Green (s)	10.0	66.0		7.0	63.0		7.0	12.0		7.0	12.0	10.0
Yellow Time (s)	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
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0		-2.0	-2.0		-2.0	-2.0	-2.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	None
Act Effct Green (s)	80.4	70.8		74.0	65.0		24.0	16.8		23.0	14.0	31.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.67	0.59		0.62	0.54		0.20	0.14		0.19	0.12	0.26
v/c Ratio	1.09	1.09		0.24	0.98		0.45	1.03		0.41	0.46	0.55
Control Delay	92.3	62.1		10.0	51.1		44.4	117.3		44.1	57.0	44.3
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	92.3	62.1		10.0	51.1		44.4	117.3		44.1	57.0	44.3
LOS	F	E		A	D		D	F		D	E	D
Approach Delay		67.5			49.2			93.4			47.5	
Approach LOS		E			D			F			D	
Queue Length 50th (ft)	~173	~1076		11	697		78	~241		49	73	150
Queue Length 95th (ft)	m116	m777		23	#1011		135	#409		92	131	233
Internal Link Dist (ft)		2042			2190			5115			4830	
Turn Bay Length (ft)	250			150			275			135		150
Base Capacity (vph)	239	1081		196	988		269	244		189	217	408
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	1.09	1.09		0.24	0.98		0.45	1.03		0.41	0.46	0.55

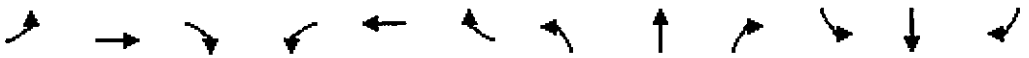
Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 20 (17%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.09
 Intersection Signal Delay: 62.3
 Intersection Capacity Utilization 97.8%
 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: 7: Stevens Mill Road & Idlewild Road

Ø1	Ø2 (R)	Ø3	Ø4
14 s	73 s	14 s	19 s
Ø5	Ø6 (R)	Ø7	Ø8
17 s	70 s	14 s	19 s

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	235	949	112	42	745	123	110	126	100	70	90	201
Future Volume (vph)	235	949	112	42	745	123	110	126	100	70	90	201
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	250		0	150		0	275		175	135		150
Storage Lanes	1		0	1		0	1		1	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		0.984			0.979				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1833	0	1770	1824	0	1770	1863	1583	1770	1863	1583
Flt Permitted	0.090			0.056			0.525			0.493		
Satd. Flow (perm)	168	1833	0	104	1824	0	978	1863	1583	918	1863	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		2122			2270			5195			4910	
Travel Time (s)		32.2			34.4			78.7			74.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	261	1054	124	47	828	137	122	140	111	78	100	223
Shared Lane Traffic (%)												
Lane Group Flow (vph)	261	1178	0	47	965	0	122	140	111	78	100	223
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	5	2		1	6		3	8	1	7	4	5
Permitted Phases	2			6			8		8	4		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)	14.0	78.0		14.0	78.0		14.0	14.0	14.0	14.0	14.0	14.0
Total Split (%)	11.7%	65.0%		11.7%	65.0%		11.7%	11.7%	11.7%	11.7%	11.7%	11.7%
Maximum Green (s)	7.0	71.0		7.0	71.0		7.0	7.0	7.0	7.0	7.0	7.0
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?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min		None	C-Min		None	None	None	None	None	None
Act Effct Green (s)	82.0	73.0		82.0	73.0		19.0	11.8	25.8	18.0	9.0	23.0

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.68	0.61		0.68	0.61		0.16	0.10	0.22	0.15	0.08	0.19
v/c Ratio	1.12	1.06		0.24	0.87		0.57	0.77	0.33	0.39	0.72	0.74
Control Delay	102.8	51.8		8.2	30.0		54.0	80.8	44.7	47.2	82.2	61.2
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	102.8	51.8		8.2	30.0		54.0	80.8	44.7	47.2	82.2	61.2
LOS	F	D		A	C		D	F	D	D	F	E
Approach Delay		61.1			29.0			61.3			63.7	
Approach LOS		E			C			E			E	
Queue Length 50th (ft)	~153	~994		9	583		83	~111	76	52	77	164
Queue Length 95th (ft)	m#197	m#1108		20	#852		142	#245	132	98	#163	#275
Internal Link Dist (ft)		2042			2190			5115			4830	
Turn Bay Length (ft)	250			150			275		175	135		150
Base Capacity (vph)	234	1115		196	1109		214	183	340	201	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	1.12	1.06		0.24	0.87		0.57	0.77	0.33	0.39	0.72	0.74

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 117 (98%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 130

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.12

Intersection Signal Delay: 51.4

Intersection Capacity Utilization 91.7%

Analysis Period (min) 15

Intersection LOS: D

ICU Level of Service F

~ Volume exceeds capacity, queue is theoretically infinite.

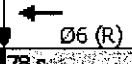
Queue shown is maximum after two cycles.

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: 7: Stevens Mill Road & Idlewild Road

 Ø1	 Ø2 (R)	 Ø3	 Ø4
14 s	78 s	14 s	14 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
14 s	78 s	14 s	14 s

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	326	2374	192	117	1923	273	251	258	85	270	204	233
Future Volume (vph)	326	2374	192	117	1923	273	251	258	85	270	204	233
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	500		500	400		400	300		200	500		500
Storage Lanes	2		1	1		1	1		1	2		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	5085	1583	1770	5085	1583	1770	3539	1583	3433	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5085	1583	1770	5085	1583	1770	3539	1583	3433	3539	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		2122			1573			5195			4910	
Travel Time (s)		32.2			23.8			78.7			74.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	362	2638	213	130	2137	303	279	287	94	300	227	259
Shared Lane Traffic (%)												
Lane Group Flow (vph)	362	2638	213	130	2137	303	279	287	94	300	227	259
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8	1	7	4	5
Permitted Phases			2			6			8			4
Detector Phase	5	2	3	1	6	7	3	8	1	7	4	5
Switch Phase												
Minimum Initial (s)	7.0	12.0	7.0	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	14.0	19.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
Total Split (s)	22.0	75.0	26.0	15.0	68.0	19.0	26.0	21.0	15.0	19.0	14.0	22.0
Total Split (%)	16.9%	57.7%	20.0%	11.5%	52.3%	14.6%	20.0%	16.2%	11.5%	14.6%	10.8%	16.9%
Maximum Green (s)	15.0	68.0	19.0	8.0	61.0	12.0	19.0	14.0	8.0	12.0	7.0	15.0
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	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	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	-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	5.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min	None	None	C-Min	None	None	None	None	None	None	None
Act Effct Green (s)	16.9	70.0	96.0	10.0	63.1	82.1	21.0	16.0	31.0	14.0	9.0	30.9

Idlewild Mixed Use
7: Stevens Mill Road & Idlewild Road

2040 No-Build
Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.13	0.54	0.74	0.08	0.49	0.63	0.16	0.12	0.24	0.11	0.07	0.24
v/c Ratio	0.81	0.96	0.18	0.96	0.87	0.30	0.98	0.66	0.25	0.81	0.93	0.69
Control Delay	54.8	39.4	6.5	125.7	34.5	11.9	102.4	62.4	42.2	74.5	101.2	55.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.8	39.4	6.5	125.7	34.5	11.9	102.4	62.4	42.2	74.5	101.2	55.9
LOS	D	D	A	F	C	B	F	E	D	E	F	E
Approach Delay		38.9			36.4			76.4			76.1	
Approach LOS		D			D			E			E	
Queue Length 50th (ft)	158	545	48	111	572	109	237	123	65	129	102	200
Queue Length 95th (ft)	m183	m#713	m70	#242	643	161	#419	173	115	#198	#183	299
Internal Link Dist (ft)		2042			1493			5115			4830	
Turn Bay Length (ft)	500		500	400		400	300		200	500		500
Base Capacity (vph)	448	2738	1168	136	2468	999	285	435	377	369	245	377
Starvation Cap Reductn	0	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	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.81	0.96	0.18	0.96	0.87	0.30	0.98	0.66	0.25	0.81	0.93	0.69

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 75 (58%), Referenced to phase 2:EBT and 6:WBT, Start of Green
 Natural Cycle: 110
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.98
 Intersection Signal Delay: 45.5
 Intersection Capacity Utilization 88.8%
 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.

Intersection LOS: D
 ICU Level of Service E

Splits and Phases: 7: Stevens Mill Road & Idlewild Road

 Ø1	 Ø2 (R)	 Ø3	 Ø4
15 s	75 s	26 s	14 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
22 s	68 s	19 s	21 s

Idlewild Mixed Use
7: Stevens Mill Road & Idlewild Road

2040 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)	348	2418	214	117	1974	273	277	258	85	270	204	259
Future Volume (vph)	348	2418	214	117	1974	273	277	258	85	270	204	259
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	500		500	400		400	300		200	500		500
Storage Lanes	2		1	1		1	1		1	2		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	5085	1583	1770	5085	1583	1770	3539	1583	3433	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5085	1583	1770	5085	1583	1770	3539	1583	3433	3539	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		2122			1573			5195			4910	
Travel Time (s)		32.2			23.8			78.7			74.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	387	2687	238	130	2193	303	308	287	94	300	227	288
Shared Lane Traffic (%)												
Lane Group Flow (vph)	387	2687	238	130	2193	303	308	287	94	300	227	288
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8	1	7	4	5
Permitted Phases			2			6			8			4
Detector Phase	5	2	3	1	6	7	3	8	1	7	4	5
Switch Phase												
Minimum Initial (s)	7.0	12.0	7.0	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	14.0	19.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
Total Split (s)	24.0	82.0	29.0	15.0	73.0	20.0	29.0	23.0	15.0	20.0	14.0	24.0
Total Split (%)	17.1%	58.6%	20.7%	10.7%	52.1%	14.3%	20.7%	16.4%	10.7%	14.3%	10.0%	17.1%
Maximum Green (s)	17.0	75.0	22.0	8.0	66.0	13.0	22.0	16.0	8.0	13.0	7.0	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	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	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	-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	5.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min	None	None	C-Min	None	None	None	None	None	None	None
Act Effct Green (s)	18.9	77.0	106.0	10.0	68.1	88.1	24.0	18.0	33.0	15.0	9.0	32.9

Lanes, Volumes, Timings
RKA

Synchro 9 Report
Page 1

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.14	0.55	0.76	0.07	0.49	0.63	0.17	0.13	0.24	0.11	0.06	0.24
v/c Ratio	0.84	0.96	0.20	1.03	0.89	0.30	1.02	0.63	0.25	0.82	1.00	0.78
Control Delay	52.5	46.8	7.7	150.6	38.0	12.9	112.5	64.7	45.7	79.2	124.2	65.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.5	46.8	7.7	150.6	38.0	12.9	112.5	64.7	45.7	79.2	124.2	65.4
LOS	D	D	A	F	D	B	F	E	D	E	F	E
Approach Delay		44.7			40.7			83.5			86.9	
Approach LOS		D			D			F			F	
Queue Length 50th (ft)	180	774	82	-126	647	120	-290	132	70	140	111	247
Queue Length 95th (ft)	m191	m835	m97	#264	720	173	#486	183	123	#210	#203	#379
Internal Link Dist (ft)		2042			1493			5115			4830	
Turn Bay Length (ft)	500		500	400		400	300		200	500		500
Base Capacity (vph)	465	2796	1198	126	2474	996	303	455	373	367	227	373
Starvation Cap Reductn	0	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	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.83	0.96	0.20	1.03	0.89	0.30	1.02	0.63	0.25	0.82	1.00	0.77

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 129 (92%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 120

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.03

Intersection Signal Delay: 51.5

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.

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

Splits and Phases: 7: Stevens Mill Road & Idlewild Road

			
Ø1	Ø2(R)	Ø3	Ø4
15 s	82 s	29 s	14 s
			
Ø5	Ø6(R)	Ø7	Ø8
24 s	73 s	20 s	23 s

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	348	2418	214	117	1974	273	277	258	85	270	204	259
Future Volume (vph)	348	2418	214	117	1974	273	277	258	85	270	204	259
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	500		500	425		400	225		200	500		500
Storage Lanes	2		1	1		1	2		1	2		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	5085	1583	1770	5085	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5085	1583	1770	5085	1583	3433	3539	1583	3433	3539	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		2122			1573			5195			4910	
Travel Time (s)		32.2			23.8			78.7			74.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	387	2687	238	130	2193	303	308	287	94	300	227	288
Shared Lane Traffic (%)												
Lane Group Flow (vph)	387	2687	238	130	2193	303	308	287	94	300	227	288
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8	1	7	4	5
Permitted Phases			2			6			8			4
Detector Phase	5	2	3	1	6	7	3	8	1	7	4	5
Switch Phase												
Minimum Initial (s)	7.0	12.0	7.0	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	14.0	19.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
Total Split (s)	24.0	82.0	29.0	15.0	73.0	20.0	29.0	23.0	15.0	20.0	14.0	24.0
Total Split (%)	17.1%	58.6%	20.7%	10.7%	52.1%	14.3%	20.7%	16.4%	10.7%	14.3%	10.0%	17.1%
Maximum Green (s)	17.0	75.0	22.0	8.0	66.0	13.0	22.0	16.0	8.0	13.0	7.0	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	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	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	-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	5.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min	None	None	C-Min	None	None	None	None	None	None	None
Act Effct Green (s)	18.9	77.0	101.7	10.3	68.4	88.4	19.7	17.7	33.0	15.0	13.0	36.8

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.14	0.55	0.73	0.07	0.49	0.63	0.14	0.13	0.24	0.11	0.09	0.26
v/c Ratio	0.84	0.96	0.21	1.00	0.88	0.30	0.64	0.64	0.25	0.82	0.69	0.69
Control Delay	52.2	46.6	9.2	142.9	37.6	12.8	62.7	65.3	45.7	79.2	73.2	56.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.2	46.6	9.2	142.9	37.6	12.8	62.7	65.3	45.7	79.2	73.2	56.9
LOS	D	D	A	F	D	B	E	E	D	E	E	E
Approach Delay		44.6			39.9			61.4			69.7	
Approach LOS		D			D			E			E	
Queue Length 50th (ft)	180	774	92	~126	647	120	138	132	70	140	106	237
Queue Length 95th (ft)	m191	m835	m97	#264	720	173	182	183	123	#210	#203	#379
Internal Link Dist (ft)		2042			1493			5115			4830	
Turn Bay Length (ft)	500		500	425		400	225		200	500		500
Base Capacity (vph)	465	2796	1198	130	2485	1000	588	455	373	367	328	418
Starvation Cap Reductn	0	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	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.83	0.96	0.20	1.00	0.88	0.30	0.52	0.63	0.25	0.82	0.69	0.69

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 129 (92%), 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: 47.2

Intersection LOS: D

Intersection Capacity Utilization 84.7%

ICU Level of Service E

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

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

Splits and Phases: 7: Stevens Mill Road & Idlewild Road

			
15 s	82 s	29 s	14 s
			
24 s	73 s	20 s	23 s

APPENDIX L

IDLEWILD ROAD AND CRISMARK DRIVE

SYNCHRO REPORTS

[illegible]

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	29	497	858	18	14	207
Future Volume (Veh/h)	29	497	858	18	14	207
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	32	552	953	20	16	230
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	973				1579	963
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	973				1579	963
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				86	26
cM capacity (veh/h)	709				115	310

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	32	552	973	246
Volume Left	32	0	0	16
Volume Right	0	0	20	230
cSH	709	1700	1700	279
Volume to Capacity	0.05	0.32	0.57	0.88
Queue Length 95th (ft)	4	0	0	194
Control Delay (s)	10.3	0.0	0.0	67.5
Lane LOS	B			F
Approach Delay (s)	0.6		0.0	67.5
Approach LOS				F

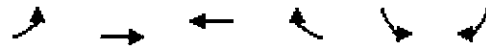
Intersection Summary				
Average Delay		9.4		
Intersection Capacity Utilization		66.5%	ICU Level of Service	C
Analysis Period (min)		15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	30	507	875	18	14	211
Future Volume (Veh/h)	30	507	875	18	14	211
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	33	563	972	20	16	234
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	992				1611	982
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	992				1611	982
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				85	23
cM capacity (veh/h)	697				109	302

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	33	563	992	250
Volume Left	33	0	0	16
Volume Right	0	0	20	234
cSH	697	1700	1700	272
Volume to Capacity	0.05	0.33	0.58	0.92
Queue Length 95th (ft)	4	0	0	211
Control Delay (s)	10.4	0.0	0.0	76.6
Lane LOS	B			F
Approach Delay (s)	0.6		0.0	76.6
Approach LOS				F

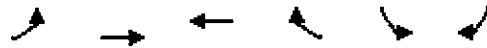
Intersection Summary				
Average Delay		10.6		
Intersection Capacity Utilization		67.6%	ICU Level of Service	C
Analysis Period (min)		15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↰	↑	↑		↰	
Traffic Volume (veh/h)	30	526	878	18	14	211
Future Volume (Veh/h)	30	526	878	18	14	211
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	33	584	976	20	16	234
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	996				1636	986
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	996				1636	986
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				85	22
cM capacity (veh/h)	695				106	301

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	33	584	996	250
Volume Left	33	0	0	16
Volume Right	0	0	20	234
cSH	695	1700	1700	269
Volume to Capacity	0.05	0.34	0.59	0.93
Queue Length 95th (ft)	4	0	0	214
Control Delay (s)	10.4	0.0	0.0	79.1
Lane LOS	B			F
Approach Delay (s)	0.6		0.0	79.1
Approach LOS				F

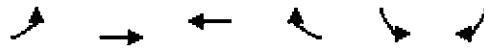
Intersection Summary				
Average Delay		10.8		
Intersection Capacity Utilization		67.8%	ICU Level of Service	C
Analysis Period (min)		15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	←	↑	↑		↑	↑
Traffic Volume (veh/h)	30	555	921	18	14	211
Future Volume (Veh/h)	30	555	921	18	14	211
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	33	617	1023	20	16	234
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1043				1716	1033
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1043				1716	1033
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				83	17
cM capacity (veh/h)	667				94	282

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	33	617	1043	250
Volume Left	33	0	0	16
Volume Right	0	0	20	234
cSH	667	1700	1700	250
Volume to Capacity	0.05	0.36	0.61	1.00
Queue Length 95th (ft)	4	0	0	242
Control Delay (s)	10.7	0.0	0.0	99.6
Lane LOS	B			F
Approach Delay (s)	0.5		0.0	99.6
Approach LOS				F

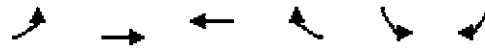
Intersection Summary			
Average Delay		13.0	
Intersection Capacity Utilization		70.1%	ICU Level of Service C
Analysis Period (min)		15	



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	←	↑	↑		↑	↑
Traffic Volume (veh/h)	146	912	776	28	10	70
Future Volume (Veh/h)	146	912	776	28	10	70
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	162	1013	862	31	11	78
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	893				2214	878
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	893				2214	878
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	79				71	78
cM capacity (veh/h)	759				38	347

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	162	1013	893	89
Volume Left	162	0	0	11
Volume Right	0	0	31	78
cSH	759	1700	1700	173
Volume to Capacity	0.21	0.60	0.53	0.51
Queue Length 95th (ft)	20	0	0	64
Control Delay (s)	11.0	0.0	0.0	46.0
Lane LOS	B			E
Approach Delay (s)	1.5		0.0	46.0
Approach LOS				E

Intersection Summary			
Average Delay	2.7		
Intersection Capacity Utilization	65.5%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	←	↑	←		←	↑
Traffic Volume (veh/h)	149	930	792	29	10	71
Future Volume (Veh/h)	149	930	792	29	10	71
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	166	1033	880	32	11	79
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	912				2261	896
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	912				2261	896
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	78				69	77
cM capacity (veh/h)	747				35	339

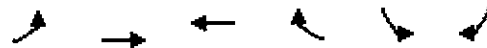
Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	166	1033	912	90
Volume Left	166	0	0	11
Volume Right	0	0	32	79
cSH	747	1700	1700	165
Volume to Capacity	0.22	0.61	0.54	0.55
Queue Length 95th (ft)	21	0	0	70
Control Delay (s)	11.2	0.0	0.0	50.6
Lane LOS	B			F
Approach Delay (s)	1.5		0.0	50.6
Approach LOS				F

Intersection Summary				
Average Delay		2.9		
Intersection Capacity Utilization		66.6%	ICU Level of Service	C
Analysis Period (min)		15		

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	149	941	810	29	10	71
Future Volume (Veh/h)	149	941	810	29	10	71
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	166	1046	900	32	11	79
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	932				2294	916
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	932				2294	916
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	77				67	76
cM capacity (veh/h)	734				33	330

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	166	1046	932	90
Volume Left	166	0	0	11
Volume Right	0	0	32	79
cSH	734	1700	1700	158
Volume to Capacity	0.23	0.62	0.55	0.57
Queue Length 95th (ft)	22	0	0	74
Control Delay (s)	11.3	0.0	0.0	54.5
Lane LOS	B			F
Approach Delay (s)	1.6		0.0	54.5
Approach LOS				F

Intersection Summary				
Average Delay		3.0		
Intersection Capacity Utilization		67.6%	ICU Level of Service	C
Analysis Period (min)		15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↰	↑	↑		↰	
Traffic Volume (veh/h)	149	970	839	29	10	71
Future Volume (Veh/h)	149	970	839	29	10	71
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	166	1078	932	32	11	79
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	964				2358	948
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	964				2358	948
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	77				63	75
cM capacity (veh/h)	714				30	316

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	166	1078	964	90
Volume Left	166	0	0	11
Volume Right	0	0	32	79
cSH	714	1700	1700	146
Volume to Capacity	0.23	0.63	0.57	0.62
Queue Length 95th (ft)	22	0	0	82
Control Delay (s)	11.6	0.0	0.0	62.9
Lane LOS	B			F
Approach Delay (s)	1.5		0.0	62.9
Approach LOS				F

Intersection Summary

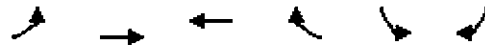
Average Delay	3.3			
Intersection Capacity Utilization	69.1%		ICU Level of Service	C
Analysis Period (min)	15			

APPENDIX M

IDLEWILD ROAD AND ROCKWELL DRIVE

SYNCHRO REPORTS

[illegible]



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↰	↱		↰	↱
Traffic Volume (veh/h)	7	504	774	4	4	102
Future Volume (Veh/h)	7	504	774	4	4	102
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	8	560	860	4	4	113
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	864				1438	862
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	864				1438	862
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				97	68
cM capacity (veh/h)	779				145	355

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	568	864	117
Volume Left	8	0	4
Volume Right	0	4	113
cSH	779	1700	338
Volume to Capacity	0.01	0.51	0.35
Queue Length 95th (ft)	1	0	38
Control Delay (s)	0.3	0.0	21.2
Lane LOS	A		C
Approach Delay (s)	0.3	0.0	21.2
Approach LOS			C

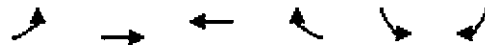
Intersection Summary			
Average Delay		1.7	
Intersection Capacity Utilization		54.2%	ICU Level of Service
Analysis Period (min)		15	A



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↰	↱		↰	↱
Traffic Volume (veh/h)	7	514	790	4	4	104
Future Volume (Veh/h)	7	514	790	4	4	104
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	8	571	878	4	4	116
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	882				1467	880
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	882				1467	880
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				97	66
cM capacity (veh/h)	767				139	346

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	579	882	120
Volume Left	8	0	4
Volume Right	0	4	116
cSH	767	1700	330
Volume to Capacity	0.01	0.52	0.36
Queue Length 95th (ft)	1	0	40
Control Delay (s)	0.3	0.0	22.0
Lane LOS	A		C
Approach Delay (s)	0.3	0.0	22.0
Approach LOS			C

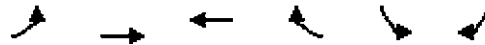
Intersection Summary			
Average Delay		1.8	
Intersection Capacity Utilization		55.1%	ICU Level of Service
Analysis Period (min)		15	B



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↰	↱		↰	↱
Traffic Volume (veh/h)	7	533	793	4	4	104
Future Volume (Veh/h)	7	533	793	4	4	104
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	8	592	881	4	4	116
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	885				1491	883
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	885				1491	883
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				97	66
cM capacity (veh/h)	765				135	345

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	600	885	120
Volume Left	8	0	4
Volume Right	0	4	116
cSH	765	1700	328
Volume to Capacity	0.01	0.52	0.37
Queue Length 95th (ft)	1	0	41
Control Delay (s)	0.3	0.0	22.2
Lane LOS	A		C
Approach Delay (s)	0.3	0.0	22.2
Approach LOS			C

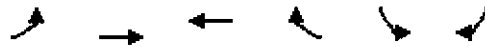
Intersection Summary			
Average Delay		1.8	
Intersection Capacity Utilization		55.3%	ICU Level of Service B
Analysis Period (min)		15	



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↰	↱		↰	↱
Traffic Volume (veh/h)	7	562	836	4	4	104
Future Volume (Veh/h)	7	562	836	4	4	104
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	8	624	929	4	4	116
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	933				1571	931
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	933				1571	931
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				97	64
cM capacity (veh/h)	734				120	324

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	632	933	120
Volume Left	8	0	4
Volume Right	0	4	116
cSH	734	1700	306
Volume to Capacity	0.01	0.55	0.39
Queue Length 95th (ft)	1	0	45
Control Delay (s)	0.3	0.0	24.1
Lane LOS	A		C
Approach Delay (s)	0.3	0.0	24.1
Approach LOS			C

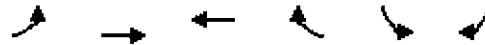
Intersection Summary			
Average Delay		1.8	
Intersection Capacity Utilization		57.6%	ICU Level of Service
Analysis Period (min)		15	B



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		←	←		←	←
Traffic Volume (veh/h)	82	840	766	4	4	38
Future Volume (Veh/h)	82	840	766	4	4	38
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	91	933	851	4	4	42
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	855				1968	853
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	855				1968	853
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	88				93	88
cM capacity (veh/h)	785				61	359

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	1024	855	46
Volume Left	91	0	4
Volume Right	0	4	42
cSH	785	1700	252
Volume to Capacity	0.12	0.50	0.18
Queue Length 95th (ft)	10	0	16
Control Delay (s)	3.3	0.0	22.5
Lane LOS	A		C
Approach Delay (s)	3.3	0.0	22.5
Approach LOS			C

Intersection Summary			
Average Delay		2.3	
Intersection Capacity Utilization		102.6%	ICU Level of Service
Analysis Period (min)		15	G



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↰	↰		↰	
Traffic Volume (veh/h)	84	857	781	4	4	39
Future Volume (Veh/h)	84	857	781	4	4	39
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	93	952	868	4	4	43
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	872				2008	870
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	872				2008	870
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	88				93	88
cM capacity (veh/h)	773				57	351

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	1045	872	47
Volume Left	93	0	4
Volume Right	0	4	43
cSH	773	1700	244
Volume to Capacity	0.12	0.51	0.19
Queue Length 95th (ft)	10	0	17
Control Delay (s)	3.5	0.0	23.2
Lane LOS	A		C
Approach Delay (s)	3.5	0.0	23.2
Approach LOS			C

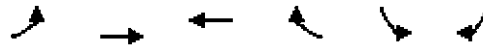
Intersection Summary			
Average Delay		2.4	
Intersection Capacity Utilization		104.4%	ICU Level of Service
Analysis Period (min)		15	G



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Volume (veh/h)	84	868	799	4	4	39
Future Volume (Veh/h)	84	868	799	4	4	39
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	93	964	888	4	4	43
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	892				2040	890
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	892				2040	890
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	88				93	87
cM capacity (veh/h)	760				55	342

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	1057	892	47
Volume Left	93	0	4
Volume Right	0	4	43
cSH	760	1700	236
Volume to Capacity	0.12	0.52	0.20
Queue Length 95th (ft)	10	0	18
Control Delay (s)	3.6	0.0	24.0
Lane LOS	A		C
Approach Delay (s)	3.6	0.0	24.0
Approach LOS			C

Intersection Summary			
Average Delay		2.5	
Intersection Capacity Utilization		106.0%	ICU Level of Service G
Analysis Period (min)		15	



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↰	↰		↰	
Traffic Volume (veh/h)	84	897	828	4	4	39
Future Volume (Veh/h)	84	897	828	4	4	39
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	93	997	920	4	4	43
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	924				2105	922
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	924				2105	922
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	87				92	87
cM capacity (veh/h)	739				49	327

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	1090	924	47
Volume Left	93	0	4
Volume Right	0	4	43
cSH	739	1700	221
Volume to Capacity	0.13	0.54	0.21
Queue Length 95th (ft)	11	0	20
Control Delay (s)	3.8	0.0	25.6
Lane LOS	A		D
Approach Delay (s)	3.8	0.0	25.6
Approach LOS			D

Intersection Summary			
Average Delay		2.6	
Intersection Capacity Utilization		109.0%	ICU Level of Service
Analysis Period (min)		15	H

APPENDIX N

SIMTRAFFIC REPORTS

[illegible]

Intersection: 2: Stallings Road & Idlewild Road

Movement	EB	WB	NB
Directions Served	TR	L	LR
Maximum Queue (ft)	30	231	803
Average Queue (ft)	3	81	340
95th Queue (ft)	17	162	743
Link Distance (ft)	2663	753	2712
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: I-485 SB 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)	317	267	198	347	235	229	272	424
Average Queue (ft)	155	105	79	189	99	113	88	259
95th Queue (ft)	259	206	160	320	191	201	191	401
Link Distance (ft)	753	753			838	838	1622	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)			100	275				375
Storage Blk Time (%)		9	6	3	0		0	2
Queuing Penalty (veh)		12	15	9	0		0	3

Intersection: 4: Idlewild Road & I-485 NB Ramp

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	T	T	R	LT	R	R
Maximum Queue (ft)	250	165	136	275	223	207	208	188	145
Average Queue (ft)	118	51	24	134	92	91	87	94	44
95th Queue (ft)	204	130	80	242	183	175	163	162	115
Link Distance (ft)		838	838	505	505			1473	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	275					125	200		850
Storage Blk Time (%)	0				3	3	1	0	
Queuing Penalty (veh)	1				10	15	2	0	

Intersection: 5: Boyd Funderburk Drive/Marshall Hooks Road & Idlewild Road

Movement	EB	WB	NB	SB
Directions Served	L	L	LTR	LTR
Maximum Queue (ft)	24	31	41	38
Average Queue (ft)	2	1	11	10
95th Queue (ft)	14	12	34	33
Link Distance (ft)			394	2283
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	350	100		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 6: Rite Aid Driveway & Idlewild Road

Movement	EB	EB	WB	WB	NB
Directions Served	T	R	UL	T	LR
Maximum Queue (ft)	176	26	57	212	111
Average Queue (ft)	37	2	21	94	45
95th Queue (ft)	108	13	49	187	88
Link Distance (ft)	494	494		2059	2037
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)			150		
Storage Blk Time (%)				1	
Queuing Penalty (veh)				1	

Intersection: 7: 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)	95	301	250	1105	275	427	234	634	250
Average Queue (ft)	35	112	78	634	74	180	119	287	193
95th Queue (ft)	79	239	231	1123	200	387	239	598	290
Link Distance (ft)		2059		2208		5157		4870	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	250		150		275		135		150
Storage Blk Time (%)		1		34		10	8	28	35
Queuing Penalty (veh)		1		27		8	34	103	89

Intersection: 8: Idlewild Road & Crismark Drive

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	42	228
Average Queue (ft)	12	101
95th Queue (ft)	38	198
Link Distance (ft)		1088
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	125	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 9: Idlewild Road & Rockwell Drive

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	84	95
Average Queue (ft)	6	43
95th Queue (ft)	41	77
Link Distance (ft)	975	709
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 329

Intersection: 2: Stallings Road & Idlewild Road

Movement	EB	WB	NB
Directions Served	TR	L	LR
Maximum Queue (ft)	42	232	1157
Average Queue (ft)	5	92	686
95th Queue (ft)	23	177	1578
Link Distance (ft)	2663	753	2712
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: I-485 SB 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)	356	291	194	434	357	266	320	435
Average Queue (ft)	192	134	81	211	149	157	88	253
95th Queue (ft)	302	237	170	368	305	269	209	379
Link Distance (ft)	753	753			838	838	1622	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)			100	275				375
Storage Blk Time (%)		13	6	4	0		0	1
Queuing Penalty (veh)		18	15	16	1		1	2

Intersection: 4: Idlewild Road & I-485 NB Ramp

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	T	T	R	LT	R	R
Maximum Queue (ft)	288	203	91	369	301	273	199	168	142
Average Queue (ft)	141	31	14	167	114	92	89	92	36
95th Queue (ft)	236	113	61	326	243	208	162	152	100
Link Distance (ft)		838	838	505	505			1473	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	275					125	200		850
Storage Blk Time (%)	1	0			5	4	0		
Queuing Penalty (veh)	1	0			18	21	1		

Intersection: 5: Boyd Funderburk Drive/Marshall Hooks Road & Idlewild Road

Movement	EB	WB	NB	SB
Directions Served	L	L	LTR	LTR
Maximum Queue (ft)	26	15	32	38
Average Queue (ft)	3	1	10	11
95th Queue (ft)	16	7	31	34
Link Distance (ft)			394	2283
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	350	100		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 6: Rite Aid Driveway & Idlewild Road

Movement	EB	EB	WB	WB	NB
Directions Served	T	R	UL	T	LR
Maximum Queue (ft)	269	16	118	222	114
Average Queue (ft)	78	1	29	100	46
95th Queue (ft)	188	10	75	193	96
Link Distance (ft)	494	494		2059	2037
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)			150		
Storage Blk Time (%)				2	
Queuing Penalty (veh)				1	

Intersection: 7: 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)	96	323	250	1588	181	390	234	1006	250
Average Queue (ft)	37	131	108	955	81	202	122	572	233
95th Queue (ft)	76	271	278	1786	231	414	258	1022	300
Link Distance (ft)		2059		2208		5157		4870	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	250		150		275		135		150
Storage Blk Time (%)		1	0	38		12	6	56	68
Queuing Penalty (veh)		1	0	31		10	28	204	176

Intersection: 8: Idlewild Road & Crismark Drive

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	60	263
Average Queue (ft)	14	121
95th Queue (ft)	42	288
Link Distance (ft)		1088
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	125	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 9: Idlewild Road & Rockwell Drive

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	90	97
Average Queue (ft)	9	43
95th Queue (ft)	49	74
Link Distance (ft)	975	709
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 544

Intersection: 2: Stallings Road & Idlewild Road

Movement	EB	WB	NB
Directions Served	TR	L	LR
Maximum Queue (ft)	41	235	813
Average Queue (ft)	4	97	400
95th Queue (ft)	20	180	941
Link Distance (ft)	2663	753	2712
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: I-485 SB 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)	360	285	198	407	256	272	334	463
Average Queue (ft)	192	133	85	224	132	144	90	265
95th Queue (ft)	319	247	177	362	244	263	216	416
Link Distance (ft)	753	753			838	838	1622	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)			100	275				375
Storage Blk Time (%)		14	9	5	0		0	3
Queuing Penalty (veh)		18	21	20	0		1	6

Intersection: 4: Idlewild Road & I-485 NB Ramp

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	T	T	R	LT	R	R
Maximum Queue (ft)	301	164	119	351	298	238	173	191	166
Average Queue (ft)	142	38	19	174	130	104	87	98	51
95th Queue (ft)	254	126	77	308	250	209	150	162	129
Link Distance (ft)		838	838	518	518			1473	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	275					125	200		850
Storage Blk Time (%)	1				7	5	0	0	
Queuing Penalty (veh)	2				26	26	0	0	

Intersection: 5: Idlewild Road & Marshall Hooks Road

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	29	34
Average Queue (ft)	4	8
95th Queue (ft)	19	28
Link Distance (ft)		2283
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	350	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: Rite Aid Driveway & Idlewild Road

Movement	EB	EB	WB	WB	NB
Directions Served	T	R	UL	T	LR
Maximum Queue (ft)	307	50	171	486	245
Average Queue (ft)	93	9	38	231	126
95th Queue (ft)	231	34	119	392	215
Link Distance (ft)	493	493		2059	2038
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)			150		
Storage Blk Time (%)				10	
Queuing Penalty (veh)				9	

Intersection: 7: 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)	193	327	250	2138	185	424	234	1670	250
Average Queue (ft)	45	146	85	1442	97	221	113	786	236
95th Queue (ft)	115	274	250	2371	252	493	230	1692	292
Link Distance (ft)		2059		2208		5157		4870	
Upstream Blk Time (%)				0					
Queuing Penalty (veh)				0					
Storage Bay Dist (ft)	250		150		275		135		150
Storage Blk Time (%)		1		41		14	5	45	69
Queuing Penalty (veh)		1		34		12	23	168	179

Intersection: 8: Idlewild Road & Crismark Drive

Movement	EB	WB	SB
Directions Served	L	TR	LR
Maximum Queue (ft)	50	10	627
Average Queue (ft)	16	0	255
95th Queue (ft)	43	5	627
Link Distance (ft)		975	1088
Upstream Blk Time (%)			1
Queuing Penalty (veh)			0
Storage Bay Dist (ft)	125		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 9: Idlewild Road & Rockwell Drive

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	93	82
Average Queue (ft)	10	42
95th Queue (ft)	57	71
Link Distance (ft)	975	709
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 545

Queuing and Blocking Report

AM Peak Hour

Intersection: 2: Stallings Road & Idlewild Road

Movement	EB	WB	NB
Directions Served	TR	L	LR
Maximum Queue (ft)	45	230	994
Average Queue (ft)	4	99	466
95th Queue (ft)	22	184	1155
Link Distance (ft)	2663	753	2712
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: I-485 SB 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)	384	301	200	465	359	320	265	490
Average Queue (ft)	211	140	89	256	161	176	84	270
95th Queue (ft)	342	261	173	416	304	313	178	424
Link Distance (ft)	753	753			838	838	1622	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)			100	275				375
Storage Blk Time (%)		16	6	6	0			3
Queuing Penalty (veh)		22	13	22	1			5

Intersection: 4: Idlewild Road & I-485 NB Ramp

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	T	T	R	LT	R	R
Maximum Queue (ft)	289	159	132	344	307	260	194	191	168
Average Queue (ft)	138	34	20	155	109	95	101	103	48
95th Queue (ft)	245	115	77	285	229	206	169	163	120
Link Distance (ft)		838	838	518	518			1473	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	275					125	200		850
Storage Blk Time (%)	1				6	5	0	0	
Queuing Penalty (veh)	2				21	26	1	0	

Intersection: 5: Idlewild Road & Marshall Hooks Road

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	37	39
Average Queue (ft)	3	9
95th Queue (ft)	18	32
Link Distance (ft)		2283
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	350	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: Rite Aid Driveway & Idlewild Road

Movement	EB	EB	WB	WB	NB	NB
Directions Served	T	R	UL	T	L	R
Maximum Queue (ft)	267	73	160	385	193	118
Average Queue (ft)	105	11	35	203	87	41
95th Queue (ft)	249	43	105	324	157	97
Link Distance (ft)	493	493		2047	2039	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			150			300
Storage Blk Time (%)				8		
Queuing Penalty (veh)				7		

Intersection: 7: Stevens Mill Road & Idlewild Road

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	R	L	T	R
Maximum Queue (ft)	145	344	250	1849	129	179	104	234	1397	250
Average Queue (ft)	45	147	75	1133	68	80	48	131	782	240
95th Queue (ft)	104	286	227	1855	111	143	88	256	1499	282
Link Distance (ft)		2047		2201		5157			4870	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	250		150		275		175	135		150
Storage Blk Time (%)		2	0	41		0		8	58	67
Queuing Penalty (veh)		1	1	33		0		34	217	173

Queuing and Blocking Report

AM Peak Hour

Intersection: 8: Idlewild Road & Crismark Drive

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	46	304
Average Queue (ft)	17	134
95th Queue (ft)	41	251
Link Distance (ft)		1088
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	125	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 9: Idlewild Road & Rockwell Drive

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	84	100
Average Queue (ft)	7	44
95th Queue (ft)	41	77
Link Distance (ft)	975	709
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 580

Intersection: 2: Stallings Road & Idlewild Road

Movement	EB	WB	NB
Directions Served	TR	L	LR
Maximum Queue (ft)	36	246	1669
Average Queue (ft)	4	95	962
95th Queue (ft)	20	181	2126
Link Distance (ft)	2663	753	2712
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: I-485 SB 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)	346	310	200	380	264	241	446	488
Average Queue (ft)	199	152	90	216	123	134	125	271
95th Queue (ft)	305	251	172	343	246	245	288	427
Link Distance (ft)	753	753			838	838	1622	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)			100	275				375
Storage Blk Time (%)		20	8	3	0		0	3
Queuing Penalty (veh)		27	22	11	1		1	5

Intersection: 4: Idlewild Road & I-485 NB Ramp

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	T	T	R	LT	R	R
Maximum Queue (ft)	277	178	141	288	303	264	187	183	162
Average Queue (ft)	120	47	34	152	124	112	93	104	67
95th Queue (ft)	216	133	104	256	233	217	155	167	137
Link Distance (ft)		838	838	506	506			1473	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	275					125	200		850
Storage Blk Time (%)	0				5	8	0	0	
Queuing Penalty (veh)	0				20	47	1	1	

Intersection: 5: Boyd Funderburk Drive/Marshall Hooks Road & Idlewild Road

Movement	EB	EB	WB	NB	SB
Directions Served	L	TR	L	R	R
Maximum Queue (ft)	22	17	52	55	36
Average Queue (ft)	2	1	20	19	3
95th Queue (ft)	12	8	49	44	19
Link Distance (ft)		506		1619	2283
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	350		100		
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 6: Rite Aid Driveway & Idlewild Road

Movement	EB	EB	WB	WB	NB
Directions Served	T	R	UL	T	LR
Maximum Queue (ft)	284	45	300	695	590
Average Queue (ft)	66	5	67	385	316
95th Queue (ft)	182	25	212	614	540
Link Distance (ft)	494	494		2059	2037
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)			150		
Storage Blk Time (%)				22	
Queuing Penalty (veh)				21	

Intersection: 7: 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)	254	413	250	2167	336	559	235	3718	250
Average Queue (ft)	60	205	93	1749	158	290	141	2323	248
95th Queue (ft)	149	352	259	2415	361	554	283	4082	267
Link Distance (ft)		2059		2208		5157		4870	
Upstream Blk Time (%)				0				1	
Queuing Penalty (veh)				2				0	
Storage Bay Dist (ft)	250		150		275		135		150
Storage Blk Time (%)		5		41	0	37	3	75	70
Queuing Penalty (veh)		4		34	0	39	14	295	182

Intersection: 8: Idlewild Road & Crismark Drive

Movement	EB	WB	SB
Directions Served	L	TR	LR
Maximum Queue (ft)	60	251	950
Average Queue (ft)	18	20	479
95th Queue (ft)	49	155	1146
Link Distance (ft)		975	1088
Upstream Blk Time (%)			15
Queuing Penalty (veh)			0
Storage Bay Dist (ft)	125		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 9: Idlewild Road & Rockwell Drive

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	92	138
Average Queue (ft)	8	45
95th Queue (ft)	56	88
Link Distance (ft)	975	709
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 726

Intersection: 2: Stallings Road & Idlewild Road

Movement	EB	WB	NB
Directions Served	TR	L	LR
Maximum Queue (ft)	31	211	1218
Average Queue (ft)	3	93	682
95th Queue (ft)	17	172	1296
Link Distance (ft)	2663	753	2712
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: I-485 SB 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)	384	304	199	431	306	300	371	474
Average Queue (ft)	198	150	94	234	135	154	125	278
95th Queue (ft)	322	261	185	376	265	275	276	431
Link Distance (ft)	753	753			838	838	1622	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)			100	275				375
Storage Blk Time (%)		21	7	6	0		0	4
Queuing Penalty (veh)		28	19	24	1		1	8

Intersection: 4: Idlewild Road & I-485 NB Ramp

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	T	T	R	LT	R	R
Maximum Queue (ft)	234	198	191	361	288	251	214	185	174
Average Queue (ft)	132	35	28	187	138	110	87	104	70
95th Queue (ft)	221	119	105	312	258	212	162	170	144
Link Distance (ft)		838	838	505	505			1473	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	275					125	200		850
Storage Blk Time (%)		0			9	5	0	0	
Queuing Penalty (veh)		0			35	30	1	0	

Intersection: 5: Site Access A/Marshall Hooks Road & Idlewild Road

Movement	EB	EB	WB	NB	SB
Directions Served	L	R	L	R	R
Maximum Queue (ft)	25	41	64	42	31
Average Queue (ft)	3	2	24	15	4
95th Queue (ft)	15	20	57	31	21
Link Distance (ft)				1604	2283
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	350	100	125		
Storage Blk Time (%)		0			
Queuing Penalty (veh)		0			

Intersection: 6: Rite Aid Driveway & Idlewild Road

Movement	EB	EB	WB	WB	NB	NB
Directions Served	T	R	UL	T	L	R
Maximum Queue (ft)	346	65	254	508	321	173
Average Queue (ft)	102	9	49	251	171	63
95th Queue (ft)	254	38	146	433	277	137
Link Distance (ft)	494	494		2047	2039	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			150			500
Storage Blk Time (%)				12		
Queuing Penalty (veh)				12		

Intersection: 7: Stevens Mill Road & Idlewild Road

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	R	L	T	R
Maximum Queue (ft)	272	451	250	1998	174	167	139	234	3302	250
Average Queue (ft)	61	165	96	1643	90	83	57	96	1957	248
95th Queue (ft)	149	324	268	2514	146	145	116	212	3554	260
Link Distance (ft)		2047		2201		5157			4870	
Upstream Blk Time (%)				0						
Queuing Penalty (veh)				1						
Storage Bay Dist (ft)	250		150		275		175	135		150
Storage Blk Time (%)		3		41		1	0	3	58	85
Queuing Penalty (veh)		3		34		1	0	15	229	220

Queuing and Blocking Report

AM Peak Hour

Intersection: 8: Idlewild Road & Crismark Drive

Movement	EB	WB	SB
Directions Served	L	TR	LR
Maximum Queue (ft)	54	77	776
Average Queue (ft)	17	7	405
95th Queue (ft)	44	60	994
Link Distance (ft)		975	1088
Upstream Blk Time (%)			6
Queuing Penalty (veh)			0
Storage Bay Dist (ft)	125		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 9: Idlewild Road & Rockwell Drive

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	45	78
Average Queue (ft)	4	40
95th Queue (ft)	23	69
Link Distance (ft)	975	709
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 661

Intersection: 1: Idlewild Road

Movement	EB	EB	SW	SW
Directions Served	T	T	R	R
Maximum Queue (ft)	5	4	146	150
Average Queue (ft)	0	0	31	9
95th Queue (ft)	4	4	102	73
Link Distance (ft)	81	81	346	346
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: Stallings Road & Idlewild Road

Movement	EB	EB	WB	WB	NB	NB
Directions Served	T	TR	LT	T	L	R
Maximum Queue (ft)	107	40	164	122	70	102
Average Queue (ft)	52	6	109	29	34	43
95th Queue (ft)	87	28	184	101	62	83
Link Distance (ft)	2556		81	81	2623	
Upstream Blk Time (%)			19	1		
Queuing Penalty (veh)			133	5		
Storage Bay Dist (ft)		150				200
Storage Blk Time (%)	0					
Queuing Penalty (veh)	0					

Intersection: 3: Idlewild Road & I-485 Southbound Off Ramp

Movement	WB	WB	SB
Directions Served	T	T	R
Maximum Queue (ft)	65	65	214
Average Queue (ft)	17	17	98
95th Queue (ft)	53	52	175
Link Distance (ft)	61	61	713
Upstream Blk Time (%)	2	1	
Queuing Penalty (veh)	10	8	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 4: I-485 Northbound Off ramp

Movement	WB	WB	WB	NB
Directions Served	T	T	T	L
Maximum Queue (ft)	112	92	65	152
Average Queue (ft)	72	42	26	71
95th Queue (ft)	115	80	59	131
Link Distance (ft)	62	62	62	582
Upstream Blk Time (%)	25	7	2	
Queuing Penalty (veh)	167	45	12	
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: Boyd Funderburk Drive/Marshall Hooks Road & Idlewild Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	SB
Directions Served	L	T	T	TR	L	T	T	TR	R	R
Maximum Queue (ft)	179	116	135	131	53	416	430	432	30	121
Average Queue (ft)	74	18	18	14	11	154	156	185	4	38
95th Queue (ft)	146	68	74	68	38	363	368	358	19	89
Link Distance (ft)		376	376	376		941	941	941	374	2265
Upstream Blk Time (%)						0	0			
Queuing Penalty (veh)						0	0			
Storage Bay Dist (ft)	400				300					
Storage Blk Time (%)						1				
Queuing Penalty (veh)						0				

Intersection: 6: Rite Aid Driveway & Idlewild Road

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	L	T	T	TR	L	T	T	TR	L	L	T
Maximum Queue (ft)	109	128	190	215	229	90	856	404	592	73	109	33
Average Queue (ft)	41	65	90	106	110	31	274	283	336	25	46	4
95th Queue (ft)	90	110	160	180	194	75	575	396	521	59	92	20
Link Distance (ft)			941	941	941		2008	2008	2008			2022
Upstream Blk Time (%)							0					
Queuing Penalty (veh)							0					
Storage Bay Dist (ft)	500	500				300				350	350	
Storage Blk Time (%)							2					
Queuing Penalty (veh)							1					

Intersection: 6: Rite Aid Driveway & Idlewild Road

Movement	NB	SB	SB	SB	SB
Directions Served	R	L	L	T	R
Maximum Queue (ft)	92	67	119	33	112
Average Queue (ft)	32	15	52	5	40
95th Queue (ft)	74	49	99	23	87
Link Distance (ft)				817	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	250	400	400		500
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 7: Stevens Mill Road & Idlewild Road

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB
Directions Served	L	L	T	T	T	R	L	T	T	T	R	L
Maximum Queue (ft)	149	161	388	412	423	124	308	480	472	454	217	289
Average Queue (ft)	62	80	279	307	321	42	126	331	324	306	70	140
95th Queue (ft)	123	137	377	401	410	97	255	461	450	428	194	251
Link Distance (ft)			2008	2008	2008			1503	1503	1503		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	500	500				500	400				400	300
Storage Blk Time (%)							0	2		1		1
Queuing Penalty (veh)							0	3		3		1

Intersection: 7: Stevens Mill Road & Idlewild Road

Movement	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	T	T	R	L	L	T	T	R
Maximum Queue (ft)	160	126	145	168	188	190	298	415
Average Queue (ft)	65	64	57	98	109	97	107	201
95th Queue (ft)	121	114	117	160	168	169	218	389
Link Distance (ft)	5113	5113				4820	4820	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)			200	500	500			500
Storage Blk Time (%)			0			0	0	
Queuing Penalty (veh)			0			0	0	

Intersection: 9: I-485 Southbound Off Ramp

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 11:

Movement	WB	WB	WB
Directions Served	L	T	T
Maximum Queue (ft)	154	429	423
Average Queue (ft)	7	134	135
95th Queue (ft)	101	369	366
Link Distance (ft)	536	536	536
Upstream Blk Time (%)	0	0	0
Queuing Penalty (veh)	0	0	0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 13: I-485 Southbound On Ramp

Movement	WB	WB	SB
Directions Served	L	L	T
Maximum Queue (ft)	29	40	119
Average Queue (ft)	1	4	71
95th Queue (ft)	13	21	122
Link Distance (ft)	131	131	37
Upstream Blk Time (%)			22
Queuing Penalty (veh)			31
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 15: Idlewild Road

Movement	EB	EB	EB
Directions Served	T	T	R
Maximum Queue (ft)	224	226	53
Average Queue (ft)	90	93	5
95th Queue (ft)	189	190	30
Link Distance (ft)	289	289	289
Upstream Blk Time (%)	0	0	
Queuing Penalty (veh)	0	0	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 17: Idlewild Road

Movement	EB	EB	EB
Directions Served	T	T	T
Maximum Queue (ft)	304	310	312
Average Queue (ft)	152	165	183
95th Queue (ft)	280	286	293
Link Distance (ft)	560	560	560
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 19: Idlewild Road

Movement	WB	WB	WB	WB
Directions Served	T	T	T	R
Maximum Queue (ft)	204	190	181	132
Average Queue (ft)	168	125	95	13
95th Queue (ft)	234	220	194	75
Link Distance (ft)	118	118	118	118
Upstream Blk Time (%)	30	13	7	1
Queuing Penalty (veh)	194	84	45	3
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 21: Idlewild Road

Movement	EB	EB	WB	WB	WB
Directions Served	T	T	R	R	R
Maximum Queue (ft)	5	10	418	402	350
Average Queue (ft)	0	1	141	109	72
95th Queue (ft)	5	9	366	330	271
Link Distance (ft)	96	96	376	376	376
Upstream Blk Time (%)			2	1	0
Queuing Penalty (veh)			18	9	3
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 22: I-485 Northbound On Ramp

Movement	EB	NB
Directions Served	L	T
Maximum Queue (ft)	14	200
Average Queue (ft)	1	68
95th Queue (ft)	7	148
Link Distance (ft)	137	124
Upstream Blk Time (%)		1
Queuing Penalty (veh)		8
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 23: I-485 Northbound Off ramp

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 33: Idlewild Road

Movement	EB	EB	NB	NB
Directions Served	T	T	T	T
Maximum Queue (ft)	171	186	111	100
Average Queue (ft)	146	154	77	73
95th Queue (ft)	170	180	116	112
Link Distance (ft)	92	92	27	27
Upstream Blk Time (%)	35	36	28	33
Queuing Penalty (veh)	180	188	167	202
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 44:

Movement	WB	WB	WB	SB	SB	SB
Directions Served	T	T	T	T	T	T
Maximum Queue (ft)	142	150	170	103	95	88
Average Queue (ft)	127	131	138	79	76	73
95th Queue (ft)	136	153	170	90	85	81
Link Distance (ft)	63	63	63	23	23	23
Upstream Blk Time (%)	44	36	34	44	48	53
Queuing Penalty (veh)	292	241	221	220	236	264
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 333: Idlewild Road & I-485 Southbound Off Ramp

Movement	EB	EB	SB	SB
Directions Served	T	T	L	L
Maximum Queue (ft)	30	34	209	236
Average Queue (ft)	4	7	117	136
95th Queue (ft)	18	26	193	211
Link Distance (ft)	18	18		688
Upstream Blk Time (%)	10	11		
Queuing Penalty (veh)	53	56		
Storage Bay Dist (ft)			500	
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 444: I-485 Northbound Off Ramp & Idlewild Road

Movement	EB	EB	EB	NB	NB	NB
Directions Served	T	T	T	R	R	R
Maximum Queue (ft)	65	76	87	230	194	147
Average Queue (ft)	16	18	24	141	115	68
95th Queue (ft)	49	53	67	200	175	134
Link Distance (ft)	80	80	80	598	598	
Upstream Blk Time (%)	1	1	3			
Queuing Penalty (veh)	3	5	13			
Storage Bay Dist (ft)						400
Storage Blk Time (%)						
Queuing Penalty (veh)						

Network Summary

Network wide Queuing Penalty: 3129

Intersection: 1: Idlewild Road

Movement	EB	SW	SW
Directions Served	T	R	R
Maximum Queue (ft)	2	138	144
Average Queue (ft)	0	31	14
95th Queue (ft)	2	99	76
Link Distance (ft)	81	346	346
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 2: Stallings Road & Idlewild Road

Movement	EB	EB	WB	WB	NB	NB
Directions Served	T	TR	LT	T	L	R
Maximum Queue (ft)	101	49	170	133	81	109
Average Queue (ft)	53	4	114	40	37	48
95th Queue (ft)	88	27	184	124	70	88
Link Distance (ft)	2556		81	81	2623	
Upstream Blk Time (%)			19	1		
Queuing Penalty (veh)			144	8		
Storage Bay Dist (ft)		150				200
Storage Blk Time (%)	0					
Queuing Penalty (veh)	0					

Intersection: 3: Idlewild Road & I-485 Southbound Off Ramp

Movement	WB	WB	SB
Directions Served	T	T	R
Maximum Queue (ft)	64	61	215
Average Queue (ft)	19	18	98
95th Queue (ft)	54	51	173
Link Distance (ft)	61	61	713
Upstream Blk Time (%)	1	1	
Queuing Penalty (veh)	9	4	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 4: I-485 Northbound Off ramp

Movement	WB	WB	WB	NB
Directions Served	T	T	T	L
Maximum Queue (ft)	115	92	69	159
Average Queue (ft)	80	46	28	71
95th Queue (ft)	115	85	59	134
Link Distance (ft)	62	62	62	582
Upstream Blk Time (%)	35	9	2	
Queuing Penalty (veh)	243	62	13	
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: Boyd Funderburk Drive/Marshall Hooks Road & Idlewild Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	SB
Directions Served	L	T	T	TR	L	T	T	TR	R	R
Maximum Queue (ft)	164	149	147	152	215	404	436	400	94	94
Average Queue (ft)	73	49	48	39	75	170	174	210	31	30
95th Queue (ft)	139	109	110	105	164	336	346	354	73	72
Link Distance (ft)		376	376	376		941	941	941	374	2265
Upstream Blk Time (%)						0	0			
Queuing Penalty (veh)						0	0			
Storage Bay Dist (ft)	400				300					
Storage Blk Time (%)						2				
Queuing Penalty (veh)						1				

Intersection: 6: Rite Aid Driveway & Idlewild Road

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	L	T	T	TR	L	T	T	TR	L	L	T
Maximum Queue (ft)	97	118	194	220	233	123	844	1188	595	211	247	47
Average Queue (ft)	38	63	104	123	130	45	285	321	328	116	141	4
95th Queue (ft)	81	104	163	191	202	97	580	729	521	204	235	29
Link Distance (ft)			941	941	941		2008	2008	2008			2022
Upstream Blk Time (%)								0				
Queuing Penalty (veh)								0				
Storage Bay Dist (ft)	500	500				300				350	350	
Storage Blk Time (%)							4					
Queuing Penalty (veh)							3					

Intersection: 6: Rite Aid Driveway & Idlewild Road

Movement	NB	SB	SB	SB	SB
Directions Served	R	L	L	T	R
Maximum Queue (ft)	171	75	116	35	108
Average Queue (ft)	72	14	52	5	41
95th Queue (ft)	142	48	98	25	89
Link Distance (ft)				817	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	250	400	400		500
Storage Blk Time (%)					
Queuing Penalty (veh)					

Queuing and Blocking Report

AM Peak Hour

Intersection: 7: Stevens Mill Road & Idlewild Road

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB
Directions Served	L	L	T	T	T	R	L	T	T	T	R	L
Maximum Queue (ft)	154	160	427	449	466	124	313	501	593	489	259	321
Average Queue (ft)	79	94	315	339	355	53	116	348	343	316	67	174
95th Queue (ft)	140	152	410	430	446	108	244	467	513	451	162	308
Link Distance (ft)			2008	2008	2008			1503	1503	1503		
Upstream Blk Time (%)									0			
Queuing Penalty (veh)									0			
Storage Bay Dist (ft)	500	500				500	400				400	300
Storage Blk Time (%)			0		0		0	2		2		4
Queuing Penalty (veh)			0		0		0	3		4		4

Intersection: 7: Stevens Mill Road & Idlewild Road

Movement	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	T	T	R	L	L	T	T	R
Maximum Queue (ft)	187	142	140	210	262	847	953	586
Average Queue (ft)	65	66	58	98	111	380	531	466
95th Queue (ft)	131	119	119	171	196	952	1171	717
Link Distance (ft)	5113	5113				4820	4820	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)			200	500	500			500
Storage Blk Time (%)		0				2	4	45
Queuing Penalty (veh)		0				5	9	58

Intersection: 9: I-485 Southbound Off Ramp

Movement	
Directions Served	
Maximum Queue (ft)	
Average Queue (ft)	
95th Queue (ft)	
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 11:

Movement	WB	WB	WB
Directions Served	L	T	T
Maximum Queue (ft)	204	437	430
Average Queue (ft)	7	133	138
95th Queue (ft)	105	377	378
Link Distance (ft)	536	536	536
Upstream Blk Time (%)	0	0	0
Queuing Penalty (veh)	0	1	1
Storage Bay Dist (ft)			
Storage Blk Time (%)	0		
Queuing Penalty (veh)	0		

Intersection: 13: I-485 Southbound On Ramp

Movement	WB	WB	SB
Directions Served	L	L	T
Maximum Queue (ft)	27	43	122
Average Queue (ft)	1	5	77
95th Queue (ft)	12	22	129
Link Distance (ft)	131	131	37
Upstream Blk Time (%)			24
Queuing Penalty (veh)			34
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 15: Idlewild Road

Movement	EB	EB	EB
Directions Served	T	T	R
Maximum Queue (ft)	232	244	86
Average Queue (ft)	110	124	9
95th Queue (ft)	209	221	48
Link Distance (ft)	289	289	289
Upstream Blk Time (%)	0	0	
Queuing Penalty (veh)	0	0	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 17: Idlewild Road

Movement	EB	EB	EB
Directions Served	T	T	T
Maximum Queue (ft)	326	338	345
Average Queue (ft)	182	200	229
95th Queue (ft)	319	327	342
Link Distance (ft)	560	560	560
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 19: Idlewild Road

Movement	WB	WB	WB	WB
Directions Served	T	T	T	R
Maximum Queue (ft)	206	189	178	135
Average Queue (ft)	173	127	99	10
95th Queue (ft)	229	211	192	66
Link Distance (ft)	118	118	118	118
Upstream Blk Time (%)	33	12	7	0
Queuing Penalty (veh)	230	79	47	3
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 21: Idlewild Road

Movement	EB	EB	EB	WB	WB	WB
Directions Served	T	T	T	R	R	R
Maximum Queue (ft)	3	8	14	413	397	385
Average Queue (ft)	0	0	0	164	129	91
95th Queue (ft)	3	6	8	386	369	319
Link Distance (ft)	96	96	96	376	376	376
Upstream Blk Time (%)				2	1	1
Queuing Penalty (veh)				17	12	5
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 22: I-485 Northbound On Ramp

Movement	EB	NB
Directions Served	L	T
Maximum Queue (ft)	13	197
Average Queue (ft)	1	66
95th Queue (ft)	6	142
Link Distance (ft)	137	124
Upstream Blk Time (%)		1
Queuing Penalty (veh)		6
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 23: I-485 Northbound Off ramp

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 33: Idlewild Road

Movement	EB	EB	NB	NB
Directions Served	T	T	T	T
Maximum Queue (ft)	166	179	113	98
Average Queue (ft)	148	157	78	75
95th Queue (ft)	165	172	117	111
Link Distance (ft)	92	92	27	27
Upstream Blk Time (%)	36	39	29	35
Queuing Penalty (veh)	198	214	187	225
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 44:

Movement	WB	WB	WB	SB	SB	SB
Directions Served	T	T	T	T	T	T
Maximum Queue (ft)	145	149	162	102	96	100
Average Queue (ft)	127	133	139	79	76	74
95th Queue (ft)	139	151	167	90	85	84
Link Distance (ft)	63	63	63	23	23	23
Upstream Blk Time (%)	47	36	32	46	49	55
Queuing Penalty (veh)	325	252	225	243	261	292
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 333: Idlewild Road & I-485 Southbound Off Ramp

Movement	EB	EB	SB	SB
Directions Served	T	T	L	L
Maximum Queue (ft)	26	41	210	248
Average Queue (ft)	4	8	126	150
95th Queue (ft)	17	29	197	226
Link Distance (ft)	18	18		688
Upstream Blk Time (%)	12	12		
Queuing Penalty (veh)	67	67		
Storage Bay Dist (ft)			500	
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 444: I-485 Northbound Off Ramp & Idlewild Road

Movement	EB	EB	EB	NB	NB	NB
Directions Served	T	T	T	R	R	R
Maximum Queue (ft)	74	78	89	221	201	165
Average Queue (ft)	25	25	35	141	115	78
95th Queue (ft)	64	64	79	203	182	144
Link Distance (ft)	80	80	80	598	598	
Upstream Blk Time (%)	2	2	3			
Queuing Penalty (veh)	9	10	18			
Storage Bay Dist (ft)						400
Storage Blk Time (%)						
Queuing Penalty (veh)						

Network Summary

Network wide Queuing Penalty: 3600

Intersection: 1: Idlewild Road

Movement	EB	SW	SW
Directions Served	T	R	R
Maximum Queue (ft)	13	167	161
Average Queue (ft)	1	40	19
95th Queue (ft)	7	125	96
Link Distance (ft)	81	346	346
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 2: Stallings Road & Idlewild Road

Movement	EB	EB	WB	WB	NB	NB
Directions Served	T	TR	LT	T	L	R
Maximum Queue (ft)	108	49	167	133	82	110
Average Queue (ft)	53	5	107	34	37	49
95th Queue (ft)	88	27	190	115	70	91
Link Distance (ft)	2556		81	81	2623	
Upstream Blk Time (%)			21	1		
Queuing Penalty (veh)			156	6		
Storage Bay Dist (ft)		150				200
Storage Blk Time (%)	0					
Queuing Penalty (veh)	0					

Intersection: 3: Idlewild Road & I-485 Southbound Off Ramp

Movement	WB	WB	SB
Directions Served	T	T	R
Maximum Queue (ft)	58	65	212
Average Queue (ft)	20	20	97
95th Queue (ft)	53	55	174
Link Distance (ft)	61	61	713
Upstream Blk Time (%)	1	2	
Queuing Penalty (veh)	6	10	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 4: I-485 Northbound Off ramp

Movement	WB	WB	WB	NB
Directions Served	T	T	T	L
Maximum Queue (ft)	118	81	79	168
Average Queue (ft)	77	37	24	73
95th Queue (ft)	124	79	62	133
Link Distance (ft)	62	62	62	582
Upstream Blk Time (%)	38	8	3	
Queuing Penalty (veh)	262	53	23	
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: Boyd Funderburk Drive/Marshall Hooks Road & Idlewild Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	SB
Directions Served	L	T	T	TR	L	T	T	TR	R	R
Maximum Queue (ft)	180	155	129	132	239	470	629	510	105	109
Average Queue (ft)	87	47	45	38	82	211	219	248	39	37
95th Queue (ft)	156	109	104	101	197	415	464	456	84	87
Link Distance (ft)		376	376	376		941	941	941	374	2265
Upstream Blk Time (%)							0			
Queuing Penalty (veh)							0			
Storage Bay Dist (ft)	400				300					
Storage Blk Time (%)						5				
Queuing Penalty (veh)						4				

Intersection: 6: Rite Aid Driveway & Idlewild Road

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	L	T	T	TR	L	T	T	TR	L	L	T
Maximum Queue (ft)	110	131	197	220	224	213	427	437	479	183	213	53
Average Queue (ft)	48	73	96	110	115	63	286	304	339	97	123	5
95th Queue (ft)	95	116	170	185	198	165	418	439	471	168	194	31
Link Distance (ft)			941	941	941		2008	2008	2008			2022
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	500	500				300				400	400	
Storage Blk Time (%)							7					
Queuing Penalty (veh)							5					

Intersection: 6: Rite Aid Driveway & Idlewild Road

Movement	NB	SB	SB	SB	SB
Directions Served	R	L	L	T	R
Maximum Queue (ft)	176	71	122	35	117
Average Queue (ft)	82	16	58	6	44
95th Queue (ft)	150	53	108	26	95
Link Distance (ft)				817	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	300	400	400		500
Storage Blk Time (%)					
Queuing Penalty (veh)					

Queuing and Blocking Report

AM Peak Hour

Intersection: 7: Stevens Mill Road & Idlewild Road

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB
Directions Served	L	L	T	T	T	R	L	T	T	T	R	L
Maximum Queue (ft)	157	171	401	418	435	149	230	469	463	447	159	156
Average Queue (ft)	83	98	278	303	315	62	109	333	324	303	69	75
95th Queue (ft)	142	152	378	396	407	125	194	442	435	414	134	135
Link Distance (ft)			2008	2008	2008			1503	1503	1503		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	500	500				500	425				400	225
Storage Blk Time (%)					0			1		1		
Queuing Penalty (veh)					0			1		2		

Intersection: 7: Stevens Mill Road & Idlewild Road

Movement	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	T	T	R	L	L	T	T	R
Maximum Queue (ft)	165	156	159	154	212	215	153	158	344
Average Queue (ft)	97	83	82	67	110	118	86	88	188
95th Queue (ft)	154	144	146	125	183	186	145	146	331
Link Distance (ft)		5113	5113				4820	4820	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	225			200	500	500		500	
Storage Blk Time (%)	0		0	0					
Queuing Penalty (veh)	0		0	0					

Intersection: 9: I-485 Southbound Off Ramp

Movement	
Directions Served	
Maximum Queue (ft)	
Average Queue (ft)	
95th Queue (ft)	
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 11:

Movement	WB	WB	WB
Directions Served	L	T	T
Maximum Queue (ft)	113	462	469
Average Queue (ft)	4	166	167
95th Queue (ft)	76	435	432
Link Distance (ft)	536	536	536
Upstream Blk Time (%)	0	0	0
Queuing Penalty (veh)	0	1	0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 13: I-485 Southbound On Ramp

Movement	WB	WB	SB
Directions Served	L	L	T
Maximum Queue (ft)	14	35	122
Average Queue (ft)	1	4	72
95th Queue (ft)	8	21	125
Link Distance (ft)	131	131	37
Upstream Blk Time (%)			28
Queuing Penalty (veh)			39
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 15: Idlewild Road

Movement	EB	EB	EB
Directions Served	T	T	R
Maximum Queue (ft)	262	282	74
Average Queue (ft)	118	130	7
95th Queue (ft)	224	240	40
Link Distance (ft)	289	289	289
Upstream Blk Time (%)	0	0	
Queuing Penalty (veh)	0	1	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 17: Idlewild Road

Movement	EB	EB	EB
Directions Served	T	T	T
Maximum Queue (ft)	347	345	362
Average Queue (ft)	191	204	230
95th Queue (ft)	328	330	348
Link Distance (ft)	560	560	560
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 19: Idlewild Road

Movement	WB	WB	WB	WB
Directions Served	T	T	T	R
Maximum Queue (ft)	211	190	183	118
Average Queue (ft)	180	140	119	14
95th Queue (ft)	222	219	208	80
Link Distance (ft)	118	118	118	118
Upstream Blk Time (%)	40	15	10	1
Queuing Penalty (veh)	275	106	71	4
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 21: Idlewild Road

Movement	EB	EB	EB	WB	WB	WB
Directions Served	T	T	T	R	R	R
Maximum Queue (ft)	8	19	24	462	447	433
Average Queue (ft)	0	1	1	255	222	176
95th Queue (ft)	8	12	12	502	490	458
Link Distance (ft)	96	96	96	376	376	376
Upstream Blk Time (%)				6	4	2
Queuing Penalty (veh)				60	37	20
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 22: I-485 Northbound On Ramp

Movement	EB	NB
Directions Served	L	T
Maximum Queue (ft)	19	176
Average Queue (ft)	1	66
95th Queue (ft)	9	137
Link Distance (ft)	137	124
Upstream Blk Time (%)		1
Queuing Penalty (veh)		6
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 23: I-485 Northbound Off ramp

Movement	EB	NB
Directions Served		
Maximum Queue (ft)		
Average Queue (ft)		
95th Queue (ft)		
Link Distance (ft)		
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 33: Idlewild Road

Movement	EB	EB	NB	NB
Directions Served	T	T	T	T
Maximum Queue (ft)	170	184	105	93
Average Queue (ft)	149	156	81	77
95th Queue (ft)	165	172	113	107
Link Distance (ft)	92	92	27	27
Upstream Blk Time (%)	36	39	34	38
Queuing Penalty (veh)	198	214	214	243
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 44:

Movement	WB	WB	WB	SB	SB	SB
Directions Served	T	T	T	T	T	T
Maximum Queue (ft)	145	160	166	102	104	90
Average Queue (ft)	127	131	140	79	77	73
95th Queue (ft)	136	159	165	90	89	81
Link Distance (ft)	63	63	63	23	23	23
Upstream Blk Time (%)	48	38	35	46	49	54
Queuing Penalty (veh)	336	264	244	244	261	288
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 333: Idlewild Road & I-485 Southbound Off Ramp

Movement	EB	EB	SB	SB
Directions Served	T	T	L	L
Maximum Queue (ft)	25	31	227	266
Average Queue (ft)	4	7	138	160
95th Queue (ft)	17	25	206	236
Link Distance (ft)	18	18		688
Upstream Blk Time (%)	13	12		
Queuing Penalty (veh)	72	65		
Storage Bay Dist (ft)			500	
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 444: I-485 Northbound Off Ramp & Idlewild Road

Movement	EB	EB	EB	NB	NB	NB
Directions Served	T	T	T	R	R	R
Maximum Queue (ft)	72	86	90	237	208	168
Average Queue (ft)	26	30	38	148	123	83
95th Queue (ft)	64	68	81	212	185	152
Link Distance (ft)	80	80	80	598	598	
Upstream Blk Time (%)	1	2	5			
Queuing Penalty (veh)	6	12	24			
Storage Bay Dist (ft)						400
Storage Blk Time (%)						
Queuing Penalty (veh)						

Network Summary

Network wide Queuing Penalty: 3836

Intersection: 2: Stallings Road & Idlewild Road

Movement	EB	WB	NB
Directions Served	TR	L	LR
Maximum Queue (ft)	31	235	2326
Average Queue (ft)	5	95	1517
95th Queue (ft)	22	186	2768
Link Distance (ft)	2663	753	2712
Upstream Blk Time (%)			14
Queuing Penalty (veh)			0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: I-485 SB 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)	359	319	199	254	203	245	338	388
Average Queue (ft)	194	146	61	109	86	119	170	186
95th Queue (ft)	322	265	151	197	175	219	288	304
Link Distance (ft)	753	753			838	838	1622	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)			100	275				375
Storage Blk Time (%)		13	1	0			0	1
Queuing Penalty (veh)		17	4	0			0	1

Intersection: 4: Idlewild Road & I-485 NB Ramp

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	T	T	R	LT	R	R
Maximum Queue (ft)	246	306	230	196	195	184	320	347	306
Average Queue (ft)	107	102	77	77	73	70	160	192	152
95th Queue (ft)	197	221	173	157	155	147	282	298	255
Link Distance (ft)		838	838	505	505			1473	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	275					125	200		850
Storage Blk Time (%)	0	0			2	2	6	8	
Queuing Penalty (veh)	1	1			5	6	30	39	

Queuing and Blocking Report

PM Peak Hour

Intersection: 5: Boyd Funderburk Drive/Marshall Hooks Road & Idlewild Road

Movement	EB	EB	WB	NB	SB
Directions Served	L	T	L	LTR	LTR
Maximum Queue (ft)	32	23	26	42	56
Average Queue (ft)	3	1	2	10	11
95th Queue (ft)	18	16	14	33	37
Link Distance (ft)		505		394	2283
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	350		100		
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 6: Rite Aid Driveway & Idlewild Road

Movement	EB	EB	B16	B16	WB	WB	NB
Directions Served	T	R	T	T	L	T	LR
Maximum Queue (ft)	538	176	134	100	105	319	399
Average Queue (ft)	269	17	12	4	46	139	217
95th Queue (ft)	504	102	97	61	89	273	351
Link Distance (ft)	494	494	411	411		2059	2037
Upstream Blk Time (%)	2		0	0			
Queuing Penalty (veh)	13		0	0			
Storage Bay Dist (ft)					150		
Storage Blk Time (%)						5	
Queuing Penalty (veh)						4	

Intersection: 7: 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	943	250	746	171	351	129	265	205
Average Queue (ft)	190	366	50	384	68	195	52	82	101
95th Queue (ft)	372	701	160	630	131	300	100	185	174
Link Distance (ft)		2059		2208		5157		4870	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	250		150		275		135		150
Storage Blk Time (%)	1	16		34		3	0	2	4
Queuing Penalty (veh)	14	33		14		2	0	4	6

Intersection: 8: Idlewild Road & Crismark Drive

Movement	EB	WB	SB
Directions Served	L	TR	LR
Maximum Queue (ft)	121	21	93
Average Queue (ft)	42	1	38
95th Queue (ft)	80	9	74
Link Distance (ft)		975	1088
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	125		
Storage Blk Time (%)	0		
Queuing Penalty (veh)	1		

Intersection: 9: Idlewild Road & Rockwell Drive

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	248	65
Average Queue (ft)	67	27
95th Queue (ft)	175	54
Link Distance (ft)	975	709
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 197

Queuing and Blocking Report

PM Peak Hour

Intersection: 2: Stallings Road & Idlewild Road

Movement	EB	WB	NB
Directions Served	TR	L	LR
Maximum Queue (ft)	50	206	2727
Average Queue (ft)	8	104	1701
95th Queue (ft)	29	191	2801
Link Distance (ft)	2663	753	2712
Upstream Blk Time (%)			11
Queuing Penalty (veh)			0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: I-485 SB 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)	476	378	200	258	206	252	264	305
Average Queue (ft)	231	185	90	117	109	132	168	200
95th Queue (ft)	382	330	205	201	197	232	263	272
Link Distance (ft)	753	753			838	838	1622	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)			100	275				375
Storage Blk Time (%)		27	3	0				
Queuing Penalty (veh)		35	11	0				

Intersection: 4: Idlewild Road & I-485 NB Ramp

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	T	T	R	LT	R	R
Maximum Queue (ft)	259	308	260	262	336	270	316	329	296
Average Queue (ft)	121	101	72	121	131	127	131	195	159
95th Queue (ft)	210	241	187	214	270	251	220	264	242
Link Distance (ft)		838	838	505	505			1473	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	275					125	200		850
Storage Blk Time (%)	0	0			7	7	0	6	
Queuing Penalty (veh)	0	1			20	25	1	31	

Intersection: 5: Boyd Funderburk Drive/Marshall Hooks Road & Idlewild Road

Movement	EB	EB	EB	WB	NB	SB
Directions Served	L	T	TR	L	LTR	LTR
Maximum Queue (ft)	27	119	104	25	29	30
Average Queue (ft)	1	6	3	2	10	13
95th Queue (ft)	9	48	34	12	31	35
Link Distance (ft)		505	505		394	2283
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	350			100		
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 6: Rite Aid Driveway & Idlewild Road

Movement	EB	EB	B16	B16	WB	WB	NB
Directions Served	T	R	T	T	L	T	LR
Maximum Queue (ft)	568	505	438	169	134	410	559
Average Queue (ft)	347	47	69	14	56	141	293
95th Queue (ft)	658	239	272	80	113	290	501
Link Distance (ft)	494	494	411	411		2059	2037
Upstream Blk Time (%)	10	1	1				
Queuing Penalty (veh)	72	4	6				
Storage Bay Dist (ft)					150		
Storage Blk Time (%)					0	6	
Queuing Penalty (veh)					0	5	

Intersection: 7: 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	1293	249	702	375	469	190	226	192
Average Queue (ft)	236	655	68	472	88	224	49	71	83
95th Queue (ft)	427	1162	207	701	249	395	107	149	162
Link Distance (ft)		2059		2208		5157		4870	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	250		150		275		135		150
Storage Blk Time (%)	3	28		43		18		0	4
Queuing Penalty (veh)	31	59		18		15		1	7

Intersection: 8: Idlewild Road & Crismark Drive

Movement	EB	WB	SB
Directions Served	L	TR	LR
Maximum Queue (ft)	79	22	96
Average Queue (ft)	47	1	39
95th Queue (ft)	70	7	66
Link Distance (ft)		975	1088
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	125		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 9: Idlewild Road & Rockwell Drive

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	305	73
Average Queue (ft)	79	26
95th Queue (ft)	189	54
Link Distance (ft)	975	709
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 341

Intersection: 2: Stallings Road & Idlewild Road

Movement	EB	WB	WB	NB
Directions Served	TR	L	T	LR
Maximum Queue (ft)	49	246	9	2748
Average Queue (ft)	8	109	0	2037
95th Queue (ft)	30	204	6	3325
Link Distance (ft)	2663	753	753	2712
Upstream Blk Time (%)				38
Queuing Penalty (veh)				0
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: I-485 SB 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)	383	322	200	271	257	272	303	346
Average Queue (ft)	197	160	74	133	95	116	183	206
95th Queue (ft)	326	276	181	238	208	238	288	312
Link Distance (ft)	753	753			838	838	1622	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)			100	275				375
Storage Blk Time (%)		24	2	1	0			0
Queuing Penalty (veh)		31	10	2	0			0

Intersection: 4: Idlewild Road & I-485 NB Ramp

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	T	T	R	LT	R	R
Maximum Queue (ft)	229	323	286	283	328	268	277	315	276
Average Queue (ft)	104	123	92	117	118	103	141	182	150
95th Queue (ft)	194	282	227	217	228	199	234	268	243
Link Distance (ft)		838	838	518	518			1473	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	275					125	200		850
Storage Blk Time (%)	0	1			6	6	4	7	
Queuing Penalty (veh)	1	2			18	19	19	38	

Queuing and Blocking Report

PM Peak Hour

Intersection: 5: Idlewild Road & Marshall Hooks Road

Movement	EB	EB	EB	SB
Directions Served	L	T	T	LR
Maximum Queue (ft)	29	124	88	34
Average Queue (ft)	2	9	4	7
95th Queue (ft)	14	75	43	26
Link Distance (ft)		518	518	2283
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	350			
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 6: Rite Aid Driveway & Idlewild Road

Movement	EB	EB	B16	B16	WB	WB	NB
Directions Served	T	R	T	T	L	T	LR
Maximum Queue (ft)	582	422	285	262	272	370	1276
Average Queue (ft)	443	50	80	40	88	226	876
95th Queue (ft)	684	202	295	233	188	333	1473
Link Distance (ft)	493	493	406	406		2059	2038
Upstream Blk Time (%)	15		1	0			
Queuing Penalty (veh)	105		9	2			
Storage Bay Dist (ft)					150		
Storage Blk Time (%)					0	12	
Queuing Penalty (veh)					1	17	

Intersection: 7: 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)	349	719	249	1531	340	1098	169	293	209
Average Queue (ft)	190	378	64	1036	269	672	54	93	110
95th Queue (ft)	345	608	210	1887	511	1298	119	235	196
Link Distance (ft)		2059		2208		5157		4870	
Upstream Blk Time (%)				1					
Queuing Penalty (veh)				6					
Storage Bay Dist (ft)	250		150		275		135		150
Storage Blk Time (%)	2	22	0	49		72	1	3	7
Queuing Penalty (veh)	17	47	0	20		69	3	8	11

Intersection: 8: Idlewild Road & Crismark Drive

Movement	EB	EB	WB	SB
Directions Served	L	T	TR	LR
Maximum Queue (ft)	106	22	173	144
Average Queue (ft)	45	1	32	55
95th Queue (ft)	84	15	261	132
Link Distance (ft)		2208	975	1088
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	125			
Storage Blk Time (%)	0	0		
Queuing Penalty (veh)	2	0		

Intersection: 9: Idlewild Road & Rockwell Drive

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	303	66
Average Queue (ft)	92	30
95th Queue (ft)	217	59
Link Distance (ft)	975	709
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 458

Queuing and Blocking Report

PM Peak Hour

Intersection: 2: Stallings Road & Idlewild Road

Movement	EB	WB	NB
Directions Served	TR	L	LR
Maximum Queue (ft)	49	273	2565
Average Queue (ft)	8	117	1796
95th Queue (ft)	31	223	3011
Link Distance (ft)	2663	753	2712
Upstream Blk Time (%)			21
Queuing Penalty (veh)			0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: I-485 SB 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)	374	357	200	265	252	302	315	314
Average Queue (ft)	203	163	69	135	109	136	187	196
95th Queue (ft)	333	293	182	230	223	261	296	296
Link Distance (ft)	753	753			838	838	1622	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)			100	275				375
Storage Blk Time (%)		20	2	0	0		0	0
Queuing Penalty (veh)		27	8	1	0		0	0

Intersection: 4: Idlewild Road & I-485 NB Ramp

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	T	T	R	LT	R	R
Maximum Queue (ft)	219	282	232	309	313	268	298	334	287
Average Queue (ft)	105	106	83	159	159	131	139	181	148
95th Queue (ft)	187	236	197	275	281	239	239	269	241
Link Distance (ft)		838	838	518	518			1473	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	275					125	200		850
Storage Blk Time (%)		0			12	10	4	6	
Queuing Penalty (veh)		0			34	36	19	34	

Queuing and Blocking Report

PM Peak Hour

Intersection: 5: Idlewild Road & Marshall Hooks Road

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	18	34
Average Queue (ft)	1	8
95th Queue (ft)	12	29
Link Distance (ft)		2283
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	350	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: Rite Aid Driveway & Idlewild Road

Movement	EB	EB	B16	B16	WB	WB	NB	NB
Directions Served	T	R	T	T	L	T	L	R
Maximum Queue (ft)	567	116	67	10	203	323	300	296
Average Queue (ft)	270	28	2	0	74	138	134	156
95th Queue (ft)	492	77	24	7	138	251	234	261
Link Distance (ft)	493	493	406	406		2047	2039	
Upstream Blk Time (%)	1							
Queuing Penalty (veh)	10							
Storage Bay Dist (ft)					150			300
Storage Blk Time (%)					1	4	1	0
Queuing Penalty (veh)					8	6	2	1

Intersection: 7: Stevens Mill Road & Idlewild Road

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	R	L	T	R
Maximum Queue (ft)	350	1049	250	941	297	420	270	219	257	222
Average Queue (ft)	192	457	56	490	108	201	119	60	109	113
95th Queue (ft)	368	868	192	833	275	409	274	138	214	203
Link Distance (ft)		2047		2201		5157			4870	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	250		150		275		175	135		150
Storage Blk Time (%)	3	19		38		36	0	1	11	6
Queuing Penalty (veh)	31	41		16		70	0	4	27	9

Queuing and Blocking Report

PM Peak Hour

Intersection: 8: Idlewild Road & Crismark Drive

Movement	EB	EB	WB	SB
Directions Served	L	T	TR	LR
Maximum Queue (ft)	105	58	24	156
Average Queue (ft)	43	2	1	49
95th Queue (ft)	80	30	10	107
Link Distance (ft)		2201	975	1088
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	125			
Storage Blk Time (%)	0	0		
Queuing Penalty (veh)	1	0		

Intersection: 9: Idlewild Road & Rockwell Drive

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	247	4	81
Average Queue (ft)	77	0	31
95th Queue (ft)	185	3	65
Link Distance (ft)	975	1025	709
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 385

Intersection: 2: Stallings Road & Idlewild Road

Movement	EB	WB	NB
Directions Served	TR	L	LR
Maximum Queue (ft)	42	281	2719
Average Queue (ft)	9	112	1990
95th Queue (ft)	31	214	3397
Link Distance (ft)	2663	753	2712
Upstream Blk Time (%)			31
Queuing Penalty (veh)			0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: I-485 SB 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)	412	349	200	281	192	213	348	363
Average Queue (ft)	210	175	69	133	65	89	184	198
95th Queue (ft)	346	299	170	225	150	182	298	315
Link Distance (ft)	753	753			838	838	1622	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)			100	275				375
Storage Blk Time (%)		24	2	0			0	0
Queuing Penalty (veh)		31	7	1			0	0

Intersection: 4: Idlewild Road & I-485 NB Ramp

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	T	T	R	LT	R	R
Maximum Queue (ft)	359	563	549	266	337	273	304	295	271
Average Queue (ft)	138	243	217	122	136	116	138	191	159
95th Queue (ft)	317	527	494	207	250	219	244	276	250
Link Distance (ft)		838	838	506	506			1473	
Upstream Blk Time (%)		0	0						
Queuing Penalty (veh)		1	1						
Storage Bay Dist (ft)	275					125	200		850
Storage Blk Time (%)	0	14			6	6	4	8	
Queuing Penalty (veh)	1	33			19	22	19	46	

Intersection: 5: Boyd Funderburk Drive/Marshall Hooks Road & Idlewild Road

Movement	EB	EB	EB	WB	WB	NB	SB
Directions Served	L	T	TR	L	T	R	R
Maximum Queue (ft)	190	461	472	143	88	303	28
Average Queue (ft)	16	315	296	48	4	86	4
95th Queue (ft)	149	672	665	102	44	276	20
Link Distance (ft)		506	506		411	1619	2283
Upstream Blk Time (%)		10	6				
Queuing Penalty (veh)		73	48				
Storage Bay Dist (ft)	350			100			
Storage Blk Time (%)		34		3	0		
Queuing Penalty (veh)		1		17	0		

Intersection: 6: Rite Aid Driveway & Idlewild Road

Movement	EB	EB	B16	B16	WB	WB	NB
Directions Served	T	R	T	T	L	T	LR
Maximum Queue (ft)	597	549	466	466	297	427	2091
Average Queue (ft)	560	162	373	324	89	245	1575
95th Queue (ft)	648	512	580	601	215	394	2424
Link Distance (ft)	494	494	411	411		2059	2037
Upstream Blk Time (%)	47	3	27	9			34
Queuing Penalty (veh)	336	19	192	64			0
Storage Bay Dist (ft)					150		
Storage Blk Time (%)					1	15	
Queuing Penalty (veh)					10	17	

Intersection: 7: 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	594	250	1483	375	1644	204	320	244
Average Queue (ft)	182	301	72	998	290	1071	56	101	117
95th Queue (ft)	338	520	226	1807	511	2069	132	243	211
Link Distance (ft)		2059		2208		5157		4870	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	250		150		275		135		150
Storage Blk Time (%)	1	13		47		84	0	4	8
Queuing Penalty (veh)	13	31		20		92	0	11	13

Intersection: 8: Idlewild Road & Crismark Drive

Movement	EB	EB	WB	SB
Directions Served	L	T	TR	LR
Maximum Queue (ft)	87	27	22	86
Average Queue (ft)	45	1	1	40
95th Queue (ft)	75	19	10	76
Link Distance (ft)		2208	975	1088
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	125			
Storage Blk Time (%)		0		
Queuing Penalty (veh)		0		

Intersection: 9: Idlewild Road & Rockwell Drive

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	227	68
Average Queue (ft)	67	26
95th Queue (ft)	165	55
Link Distance (ft)	975	709
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 1140

Idlewild Mixed Use

Queuing and Blocking Report

Intersection: 2: Stallings Road & Idlewild Road

Movement	EB	WB	NB
Directions Served	TR	L	LR
Maximum Queue (ft)	91	250	2749
Average Queue (ft)	10	110	2115
95th Queue (ft)	51	209	3302
Link Distance (ft)	2663	753	2712
Upstream Blk Time (%)			42
Queuing Penalty (veh)			0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: I-485 SB 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)	467	437	200	274	230	240	421	348
Average Queue (ft)	219	182	83	143	74	102	181	181
95th Queue (ft)	374	332	198	240	168	205	327	298
Link Distance (ft)	753	753			838	838	1622	
Upstream Blk Time (%)	0	0						
Queuing Penalty (veh)	1	1						375
Storage Bay Dist (ft)			100	275			1	0
Storage Blk Time (%)		24	2	0	0		4	0
Queuing Penalty (veh)		32	8	1	0			

Intersection: 4: Idlewild Road & I-485 NB Ramp

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	T	T	R	LT	R	R
Maximum Queue (ft)	299	441	427	306	356	275	328	362	330
Average Queue (ft)	128	183	163	157	173	149	150	199	164
95th Queue (ft)	292	473	454	257	305	260	274	323	295
Link Distance (ft)		838	838	505	505			1473	
Upstream Blk Time (%)		2	1						
Queuing Penalty (veh)		10	7						
Storage Bay Dist (ft)	275					125	200		850
Storage Blk Time (%)	0	8			12	12	4	11	
Queuing Penalty (veh)	0	20			39	44	24	60	

Intersection: 5: Site Access A/Marshall Hooks Road & Idlewild Road

Movement	EB	EB	EB	EB	WB	WB	NB	SB
Directions Served	L	T	T	R	L	T	R	R
Maximum Queue (ft)	27	224	204	88	126	112	58	28
Average Queue (ft)	3	61	56	12	48	6	21	4
95th Queue (ft)	15	314	307	85	96	56	48	20
Link Distance (ft)		505	505			411	1604	2283
Upstream Blk Time (%)		4	3					
Queuing Penalty (veh)		32	27					
Storage Bay Dist (ft)	350			100	125			
Storage Blk Time (%)		8	3		1	0		
Queuing Penalty (veh)		0	4		4	0		

Intersection: 6: Rite Aid Driveway & Idlewild Road

Movement	EB	EB	B16	B16	WB	WB	NB	NB
Directions Served	T	R	T	T	L	T	L	R
Maximum Queue (ft)	558	344	270	285	196	381	498	402
Average Queue (ft)	374	52	116	85	65	210	269	183
95th Queue (ft)	676	264	411	350	130	318	510	353
Link Distance (ft)	494	494	411	411		2047	2039	
Upstream Blk Time (%)	19	1	7	2				
Queuing Penalty (veh)	132	7	52	15				
Storage Bay Dist (ft)					150			500
Storage Blk Time (%)					0	11	4	
Queuing Penalty (veh)					2	12	10	

Intersection: 7: Stevens Mill Road & Idlewild Road

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	R	L	T	R
Maximum Queue (ft)	350	1756	249	822	300	502	255	211	466	250
Average Queue (ft)	286	1130	56	440	109	190	96	80	215	170
95th Queue (ft)	441	2177	185	747	264	483	227	190	459	276
Link Distance (ft)		2047		2201		5157			4870	
Upstream Blk Time (%)		1								
Queuing Penalty (veh)		15								
Storage Bay Dist (ft)	250		150		275		175	135		150
Storage Blk Time (%)	39	24		31		23	0	2	21	32
Queuing Penalty (veh)	414	56		13		49	0	5	56	52

Idlewild Mixed Use Queuing and Blocking Report

Intersection: 8: Idlewild Road & Crismark Drive

Movement	EB	EB	WB	SB
Directions Served	L	T	TR	LR
Maximum Queue (ft)	114	58	16	153
Average Queue (ft)	45	2	1	47
95th Queue (ft)	86	30	8	121
Link Distance (ft)		2201	975	1088
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	125			
Storage Blk Time (%)	1	0		
Queuing Penalty (veh)	5	0		

Intersection: 9: Idlewild Road & Rockwell Drive

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	262	78
Average Queue (ft)	82	27
95th Queue (ft)	201	60
Link Distance (ft)	975	709
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 1216

Intersection: 1: Idlewild Road

Movement	EB	EB	SW	SW
Directions Served	T	T	R	R
Maximum Queue (ft)	25	45	130	120
Average Queue (ft)	1	2	31	10
95th Queue (ft)	12	21	96	64
Link Distance (ft)	81	81	346	346
Upstream Blk Time (%)	0	0		
Queuing Penalty (veh)	0	1		
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: Stallings Road & Idlewild Road

Movement	EB	EB	WB	WB	NB	NB
Directions Served	T	TR	LT	T	L	R
Maximum Queue (ft)	103	46	162	130	95	180
Average Queue (ft)	59	5	110	33	45	78
95th Queue (ft)	92	28	188	110	78	146
Link Distance (ft)	2556		81	81	2623	
Upstream Blk Time (%)			18	1		
Queuing Penalty (veh)			116	5		
Storage Bay Dist (ft)		150			200	
Storage Blk Time (%)					0	
Queuing Penalty (veh)					0	

Intersection: 3: Idlewild Road & I-485 Southbound Off Ramp

Movement	WB	WB	SB
Directions Served	T	T	R
Maximum Queue (ft)	64	64	151
Average Queue (ft)	21	20	68
95th Queue (ft)	57	58	131
Link Distance (ft)	61	61	713
Upstream Blk Time (%)	2	3	
Queuing Penalty (veh)	12	15	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 4: I-485 Northbound Off ramp

Movement	WB	WB	WB	NB
Directions Served	T	T	T	L
Maximum Queue (ft)	115	85	65	151
Average Queue (ft)	81	39	23	69
95th Queue (ft)	117	79	56	130
Link Distance (ft)	62	62	62	582
Upstream Blk Time (%)	44	9	2	
Queuing Penalty (veh)	276	58	12	
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: Boyd Funderburk Drive/Marshall Hooks Road & Idlewild Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	SB
Directions Served	L	T	T	TR	L	T	T	TR	R	R
Maximum Queue (ft)	181	121	134	124	154	327	338	396	59	204
Average Queue (ft)	82	34	36	32	39	116	116	155	12	106
95th Queue (ft)	152	88	95	88	120	316	315	357	40	185
Link Distance (ft)		376	376	376		941	941	941	374	2265
Upstream Blk Time (%)			0							
Queuing Penalty (veh)			0							
Storage Bay Dist (ft)	400				300					
Storage Blk Time (%)						3				
Queuing Penalty (veh)						1				

Intersection: 6: Rite Aid Driveway & Idlewild Road

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	L	T	T	TR	L	T	T	TR	L	L	T
Maximum Queue (ft)	121	141	449	459	476	249	385	694	607	241	264	27
Average Queue (ft)	54	79	263	280	295	116	235	275	322	128	153	3
95th Queue (ft)	103	125	381	395	410	204	350	529	518	223	247	17
Link Distance (ft)			941	941	941		2008	2008	2008			2022
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	500	500				300				350	350	
Storage Blk Time (%)			0				2					
Queuing Penalty (veh)			0				2					

Intersection: 6: Rite Aid Driveway & Idlewild Road

Movement	NB	SB	SB	SB	SB
Directions Served	R	L	L	T	R
Maximum Queue (ft)	180	238	283	36	254
Average Queue (ft)	91	138	173	4	126
95th Queue (ft)	159	234	255	21	212
Link Distance (ft)				817	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	250	400	400		500
Storage Blk Time (%)	0				
Queuing Penalty (veh)	0				

Intersection: 7: Stevens Mill Road & Idlewild Road

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB
Directions Served	L	L	T	T	T	R	L	T	T	T	R	L
Maximum Queue (ft)	244	261	530	552	566	224	322	416	409	399	194	361
Average Queue (ft)	136	148	392	417	432	61	180	304	294	279	87	236
95th Queue (ft)	227	239	536	557	573	176	320	394	384	376	158	367
Link Distance (ft)			2008	2008	2008			1503	1503	1503		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	500	500				500	400				400	300
Storage Blk Time (%)			1		3		0	0		0		10
Queuing Penalty (veh)			3		6		0	0		0		13

Intersection: 7: Stevens Mill Road & Idlewild Road

Movement	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	T	T	R	L	L	T	T	R
Maximum Queue (ft)	352	224	111	173	177	189	202	307
Average Queue (ft)	119	96	50	100	109	105	107	159
95th Queue (ft)	322	178	96	166	170	211	219	280
Link Distance (ft)	5113	5113				4820	4820	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)			200	500	500			500
Storage Blk Time (%)	0	0						
Queuing Penalty (veh)	0	0						

Intersection: 9: I-485 Southbound Off Ramp

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 11:

Movement	WB	WB	WB
Directions Served	L	T	T
Maximum Queue (ft)	110	436	423
Average Queue (ft)	4	187	189
95th Queue (ft)	74	444	438
Link Distance (ft)	536	536	536
Upstream Blk Time (%)	0	0	0
Queuing Penalty (veh)	0	2	2
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 13: I-485 Southbound On Ramp

Movement	WB	WB	SB
Directions Served	L	L	T
Maximum Queue (ft)	18	35	115
Average Queue (ft)	1	4	63
95th Queue (ft)	9	19	113
Link Distance (ft)	131	131	37
Upstream Blk Time (%)			21
Queuing Penalty (veh)			31
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 15: Idlewild Road

Movement	EB	EB	EB
Directions Served	T	T	R
Maximum Queue (ft)	298	320	40
Average Queue (ft)	170	183	2
95th Queue (ft)	276	290	19
Link Distance (ft)	289	289	289
Upstream Blk Time (%)	0	1	
Queuing Penalty (veh)	2	4	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 17: Idlewild Road

Movement	EB	EB	EB
Directions Served	T	T	T
Maximum Queue (ft)	363	370	385
Average Queue (ft)	229	240	265
95th Queue (ft)	361	367	382
Link Distance (ft)	560	560	560
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 19: Idlewild Road

Movement	WB	WB	WB	WB
Directions Served	T	T	T	R
Maximum Queue (ft)	217	192	178	150
Average Queue (ft)	185	147	119	19
95th Queue (ft)	207	212	185	98
Link Distance (ft)	118	118	118	118
Upstream Blk Time (%)	41	14	7	1
Queuing Penalty (veh)	270	90	49	6
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 21: Idlewild Road

Movement	EB	EB	WB	WB	WB
Directions Served	T	T	R	R	R
Maximum Queue (ft)	35	24	429	429	411
Average Queue (ft)	1	1	245	214	177
95th Queue (ft)	15	13	471	476	452
Link Distance (ft)	96	96	376	376	376
Upstream Blk Time (%)			6	5	2
Queuing Penalty (veh)			51	40	20
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 22: I-485 Northbound On Ramp

Movement	EB	NB
Directions Served	L	T
Maximum Queue (ft)	23	208
Average Queue (ft)	1	96
95th Queue (ft)	9	189
Link Distance (ft)	137	124
Upstream Blk Time (%)		4
Queuing Penalty (veh)		27
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 23: I-485 Northbound Off ramp

Movement	
Directions Served	
Maximum Queue (ft)	
Average Queue (ft)	
95th Queue (ft)	
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 33: Idlewild Road

Movement	EB	EB	NB	NB
Directions Served	T	T	T	T
Maximum Queue (ft)	168	184	110	106
Average Queue (ft)	150	157	81	78
95th Queue (ft)	160	168	117	113
Link Distance (ft)	92	92	27	27
Upstream Blk Time (%)	36	38	36	42
Queuing Penalty (veh)	246	265	208	240
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 44:

Movement	WB	WB	WB	SB	SB	SB
Directions Served	T	T	T	T	T	T
Maximum Queue (ft)	149	155	163	100	93	94
Average Queue (ft)	127	134	142	79	76	73
95th Queue (ft)	136	154	159	89	84	81
Link Distance (ft)	63	63	63	23	23	23
Upstream Blk Time (%)	51	37	34	43	46	51
Queuing Penalty (veh)	322	233	213	273	294	327
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 333: Idlewild Road & I-485 Southbound Off Ramp

Movement	EB	EB	SB	SB
Directions Served	T	T	L	L
Maximum Queue (ft)	30	39	297	308
Average Queue (ft)	6	11	178	201
95th Queue (ft)	20	31	266	289
Link Distance (ft)	18	18		688
Upstream Blk Time (%)	17	18		
Queuing Penalty (veh)	117	123		
Storage Bay Dist (ft)			500	
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 444: I-485 Northbound Off Ramp & Idlewild Road

Movement	EB	EB	EB	NB	NB	NB
Directions Served	T	T	T	R	R	R
Maximum Queue (ft)	84	90	94	298	269	247
Average Queue (ft)	31	33	43	207	177	140
95th Queue (ft)	71	71	85	280	248	217
Link Distance (ft)	80	80	80	598	598	
Upstream Blk Time (%)	2	2	5			
Queuing Penalty (veh)	14	15	29			
Storage Bay Dist (ft)						400
Storage Blk Time (%)						
Queuing Penalty (veh)						

Network Summary

Network wide Queuing Penalty: 4038

Intersection: 1: Idlewild Road

Movement	EB	EB	SW	SW
Directions Served	T	T	R	R
Maximum Queue (ft)	38	62	146	153
Average Queue (ft)	3	4	37	18
95th Queue (ft)	21	29	111	91
Link Distance (ft)	81	81	346	346
Upstream Blk Time (%)	0	0		
Queuing Penalty (veh)	0	1		
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: Stallings Road & Idlewild Road

Movement	EB	EB	WB	WB	NB	NB
Directions Served	T	TR	LT	T	L	R
Maximum Queue (ft)	108	55	160	131	104	221
Average Queue (ft)	59	6	107	38	47	93
95th Queue (ft)	93	31	191	118	87	176
Link Distance (ft)	2556		81	81	2623	
Upstream Blk Time (%)			19	1		
Queuing Penalty (veh)			129	6		
Storage Bay Dist (ft)		150				200
Storage Blk Time (%)	0					1
Queuing Penalty (veh)	0					1

Intersection: 3: Idlewild Road & I-485 Southbound Off Ramp

Movement	WB	WB	SB
Directions Served	T	T	R
Maximum Queue (ft)	71	74	164
Average Queue (ft)	27	26	67
95th Queue (ft)	67	67	135
Link Distance (ft)	61	61	713
Upstream Blk Time (%)	5	4	
Queuing Penalty (veh)	30	22	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 4: I-485 Northbound Off ramp

Movement	WB	WB	WB	NB
Directions Served	T	T	T	L
Maximum Queue (ft)	118	89	69	148
Average Queue (ft)	87	43	29	71
95th Queue (ft)	115	85	63	132
Link Distance (ft)	62	62	62	582
Upstream Blk Time (%)	52	13	3	
Queuing Penalty (veh)	342	86	17	
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: Boyd Funderburk Drive/Marshall Hooks Road & Idlewild Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	SB
Directions Served	L	T	T	TR	L	T	T	TR	R	R
Maximum Queue (ft)	340	406	404	433	358	744	761	836	133	837
Average Queue (ft)	118	210	233	260	195	461	464	526	58	427
95th Queue (ft)	251	382	402	423	420	919	923	969	114	1042
Link Distance (ft)		376	376	376		941	941	941	374	2265
Upstream Blk Time (%)	0	1	1	1		1	1	1		
Queuing Penalty (veh)	0	7	9	13		12	8	12		
Storage Bay Dist (ft)	400				300					
Storage Blk Time (%)	0	1			0	23				
Queuing Penalty (veh)	0	1			0	30				

Intersection: 6: Rite Aid Driveway & Idlewild Road

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	L	T	T	TR	L	T	T	TR	L	L	T
Maximum Queue (ft)	125	232	609	629	644	320	570	1038	628	351	385	652
Average Queue (ft)	62	91	367	389	413	154	234	272	305	219	252	151
95th Queue (ft)	113	220	603	625	636	267	470	650	588	373	413	821
Link Distance (ft)			941	941	941		2008	2008	2008			2022
Upstream Blk Time (%)			0	0	0			0	0			0
Queuing Penalty (veh)			0	0	1			0	0			0
Storage Bay Dist (ft)	500	500				300				350	350	
Storage Blk Time (%)			3			1	4			5	11	0
Queuing Penalty (veh)			5			6	7			9	19	2

Intersection: 6: Rite Aid Driveway & Idlewild Road

Movement	NB	SB	SB	SB	SB
Directions Served	R	L	L	T	R
Maximum Queue (ft)	287	208	267	112	312
Average Queue (ft)	135	103	153	27	166
95th Queue (ft)	238	197	248	227	330
Link Distance (ft)				817	
Upstream Blk Time (%)				0	
Queuing Penalty (veh)				0	
Storage Bay Dist (ft)	250	400	400		500
Storage Blk Time (%)	1				2
Queuing Penalty (veh)	3				4

Intersection: 7: Stevens Mill Road & Idlewild Road

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB
Directions Served	L	L	T	T	T	R	L	T	T	T	R	L
Maximum Queue (ft)	252	442	738	620	772	599	387	716	700	634	360	380
Average Queue (ft)	148	175	491	506	528	146	259	455	433	379	104	275
95th Queue (ft)	239	331	671	614	704	456	485	910	877	754	241	431
Link Distance (ft)			2008	2008	2008			1503	1503	1503		
Upstream Blk Time (%)								0	0	0		
Queuing Penalty (veh)								0	0	0		
Storage Bay Dist (ft)	500	500				500	400				400	300
Storage Blk Time (%)			5		12		17	4		2		22
Queuing Penalty (veh)			16		25		109	4		5		28

Intersection: 7: Stevens Mill Road & Idlewild Road

Movement	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	T	T	R	L	L	T	T	R
Maximum Queue (ft)	474	192	144	191	217	262	270	355
Average Queue (ft)	185	106	62	112	121	147	151	204
95th Queue (ft)	498	165	120	182	195	289	296	336
Link Distance (ft)	5113	5113				4820	4820	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)			200	500	500			500
Storage Blk Time (%)	0	0	0					
Queuing Penalty (veh)	0	0	0					

Intersection: 9: I-485 Southbound Off Ramp

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 11:

Movement	WB	WB	WB
Directions Served	L	T	T
Maximum Queue (ft)	177	370	358
Average Queue (ft)	8	185	187
95th Queue (ft)	120	440	442
Link Distance (ft)	536	536	536
Upstream Blk Time (%)	0	0	0
Queuing Penalty (veh)	0	1	1
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 13: I-485 Southbound On Ramp

Movement	WB	WB	SB
Directions Served	L	L	T
Maximum Queue (ft)	12	35	125
Average Queue (ft)	1	5	68
95th Queue (ft)	7	22	124
Link Distance (ft)	131	131	37
Upstream Blk Time (%)			24
Queuing Penalty (veh)			35
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 15: Idlewild Road

Movement	EB	EB	EB
Directions Served	T	T	R
Maximum Queue (ft)	331	344	58
Average Queue (ft)	206	219	5
95th Queue (ft)	329	336	30
Link Distance (ft)	289	289	289
Upstream Blk Time (%)	1	2	
Queuing Penalty (veh)	6	11	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 17: Idlewild Road

Movement	EB	EB	EB	EB
Directions Served	L	T	T	T
Maximum Queue (ft)	56	431	432	442
Average Queue (ft)	2	270	285	309
95th Queue (ft)	55	433	435	442
Link Distance (ft)		560	560	560
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	500			
Storage Blk Time (%)		0		
Queuing Penalty (veh)		0		

Intersection: 19: Idlewild Road

Movement	WB	WB	WB	WB
Directions Served	T	T	T	R
Maximum Queue (ft)	210	195	180	181
Average Queue (ft)	185	156	151	45
95th Queue (ft)	196	215	205	158
Link Distance (ft)	118	118	118	118
Upstream Blk Time (%)	59	29	25	5
Queuing Penalty (veh)	408	197	173	34
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 21: Idlewild Road

Movement	EB	EB	EB	WB	WB	WB
Directions Served	T	T	T	R	R	R
Maximum Queue (ft)	27	80	73	457	468	447
Average Queue (ft)	2	5	3	380	378	361
95th Queue (ft)	28	37	31	488	524	529
Link Distance (ft)	96	96	96	376	376	376
Upstream Blk Time (%)	0	0	0	27	22	13
Queuing Penalty (veh)	1	1	1	250	207	119
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 22: I-485 Northbound On Ramp

Movement	EB	NB
Directions Served	L	T
Maximum Queue (ft)	27	212
Average Queue (ft)	1	102
95th Queue (ft)	12	203
Link Distance (ft)	137	124
Upstream Blk Time (%)		4
Queuing Penalty (veh)		31
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 23: I-485 Northbound Off ramp

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 33: Idlewild Road

Movement	EB	EB	NB	NB
Directions Served	T	T	T	T
Maximum Queue (ft)	170	174	107	102
Average Queue (ft)	150	157	84	80
95th Queue (ft)	160	165	112	110
Link Distance (ft)	92	92	27	27
Upstream Blk Time (%)	36	40	41	45
Queuing Penalty (veh)	263	288	244	269
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 44:

Movement	WB	WB	WB	SB	SB	SB
Directions Served	T	T	T	T	T	T
Maximum Queue (ft)	156	162	162	93	97	90
Average Queue (ft)	128	131	143	79	76	73
95th Queue (ft)	140	157	153	86	86	81
Link Distance (ft)	63	63	63	23	23	23
Upstream Blk Time (%)	59	51	47	44	46	51
Queuing Penalty (veh)	389	335	311	296	311	345
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 333: Idlewild Road & I-485 Southbound Off Ramp

Movement	EB	EB	SB	SB
Directions Served	T	T	L	L
Maximum Queue (ft)	27	41	305	342
Average Queue (ft)	5	11	203	232
95th Queue (ft)	18	33	286	317
Link Distance (ft)	18	18		688
Upstream Blk Time (%)	16	18		
Queuing Penalty (veh)	114	128		
Storage Bay Dist (ft)			500	
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 444: I-485 Northbound Off Ramp & Idlewild Road

Movement	EB	EB	EB	NB	NB	NB
Directions Served	T	T	T	R	R	R
Maximum Queue (ft)	95	89	104	302	272	260
Average Queue (ft)	37	38	53	210	190	155
95th Queue (ft)	79	82	99	282	263	237
Link Distance (ft)	80	80	80	598	598	
Upstream Blk Time (%)	3	5	9			
Queuing Penalty (veh)	18	31	61			
Storage Bay Dist (ft)						400
Storage Blk Time (%)						
Queuing Penalty (veh)						

Network Summary

Network wide Queuing Penalty: 5850

Intersection: 1: Idlewild Road

Movement	EB	EB	SW	SW
Directions Served	T	T	R	R
Maximum Queue (ft)	66	86	177	175
Average Queue (ft)	9	12	52	27
95th Queue (ft)	52	67	136	115
Link Distance (ft)	81	81	346	346
Upstream Blk Time (%)	1	1		
Queuing Penalty (veh)	6	11		
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: Stallings Road & Idlewild Road

Movement	EB	EB	WB	WB	NB	NB
Directions Served	T	TR	LT	T	L	R
Maximum Queue (ft)	117	71	168	131	200	231
Average Queue (ft)	60	8	117	42	56	105
95th Queue (ft)	97	42	197	126	136	208
Link Distance (ft)	2556		81	81	2623	
Upstream Blk Time (%)			22	1		
Queuing Penalty (veh)			150	8		
Storage Bay Dist (ft)		150				200
Storage Blk Time (%)	0	0			0	4
Queuing Penalty (veh)	0	0			0	5

Intersection: 3: Idlewild Road & I-485 Southbound Off Ramp

Movement	WB	WB	SB
Directions Served	T	T	R
Maximum Queue (ft)	74	71	159
Average Queue (ft)	25	26	69
95th Queue (ft)	67	69	133
Link Distance (ft)	61	61	713
Upstream Blk Time (%)	5	6	
Queuing Penalty (veh)	33	35	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 4: I-485 Northbound Off ramp

Movement	WB	WB	WB	NB
Directions Served	T	T	T	L
Maximum Queue (ft)	116	87	74	188
Average Queue (ft)	80	44	28	79
95th Queue (ft)	121	85	67	151
Link Distance (ft)	62	62	62	582
Upstream Blk Time (%)	43	12	5	
Queuing Penalty (veh)	283	79	30	
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: Boyd Funderburk Drive/Marshall Hooks Road & Idlewild Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	SB
Directions Served	L	T	T	TR	L	T	T	TR	R	R
Maximum Queue (ft)	328	432	446	439	343	617	631	714	170	564
Average Queue (ft)	102	233	254	271	150	306	307	370	64	226
95th Queue (ft)	225	429	447	465	321	675	674	739	129	596
Link Distance (ft)		376	376	376		941	941	941	374	2265
Upstream Blk Time (%)	0	1	1	2		1	1	1		
Queuing Penalty (veh)	0	13	13	24		8	5	6		
Storage Bay Dist (ft)	400				300					
Storage Blk Time (%)	0	1				11				
Queuing Penalty (veh)	0	1				14				

Intersection: 6: Rite Aid Driveway & Idlewild Road

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	L	T	T	TR	L	T	T	TR	L	L	T
Maximum Queue (ft)	162	279	630	638	635	306	798	987	524	384	406	409
Average Queue (ft)	65	94	396	418	438	160	262	295	318	213	245	80
95th Queue (ft)	131	208	615	636	638	284	670	751	647	375	402	661
Link Distance (ft)			941	941	941		2008	2008	2008			2022
Upstream Blk Time (%)								0				2
Queuing Penalty (veh)								0				0
Storage Bay Dist (ft)	500	500				300				400	400	
Storage Blk Time (%)			4			1	3			2	5	0
Queuing Penalty (veh)			8			4	5			4	8	1

Intersection: 6: Rite Aid Driveway & Idlewild Road

Movement	NB	SB	SB	SB	SB
Directions Served	R	L	L	T	R
Maximum Queue (ft)	264	200	229	35	263
Average Queue (ft)	136	104	149	5	143
95th Queue (ft)	235	196	217	24	251
Link Distance (ft)				817	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	300	400	400		500
Storage Blk Time (%)	0				
Queuing Penalty (veh)	1				

Intersection: 7: Stevens Mill Road & Idlewild Road

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB
Directions Served	L	L	T	T	T	R	L	T	T	T	R	L
Maximum Queue (ft)	272	466	638	781	644	554	420	597	565	557	274	204
Average Queue (ft)	165	192	495	518	525	141	232	378	357	326	97	105
95th Queue (ft)	284	367	617	702	642	436	421	661	628	562	198	175
Link Distance (ft)			2008	2008	2008			1503	1503	1503		
Upstream Blk Time (%)								0	0			
Queuing Penalty (veh)								0	0			
Storage Bay Dist (ft)	500	500				500	425				400	225
Storage Blk Time (%)			6		13		7	1		1		0
Queuing Penalty (veh)			20		27		46	2		3		0

Intersection: 7: Stevens Mill Road & Idlewild Road

Movement	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	T	T	R	L	L	T	T	R
Maximum Queue (ft)	231	200	186	128	204	203	159	201	359
Average Queue (ft)	127	93	99	55	111	121	79	85	196
95th Queue (ft)	194	164	165	109	179	183	142	164	343
Link Distance (ft)		5113	5113				4820	4820	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	225			200	500	500		500	
Storage Blk Time (%)	0	0	0					0	
Queuing Penalty (veh)	0	1	0					0	

Intersection: 9: I-485 Southbound Off Ramp

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 11:

Movement	WB	WB	WB
Directions Served	L	T	T
Maximum Queue (ft)	374	496	488
Average Queue (ft)	19	292	292
95th Queue (ft)	183	576	569
Link Distance (ft)	536	536	536
Upstream Blk Time (%)	0	1	1
Queuing Penalty (veh)	0	7	9
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 13: I-485 Southbound On Ramp

Movement	WB	WB	SB
Directions Served	L	L	T
Maximum Queue (ft)	16	32	119
Average Queue (ft)	1	4	74
95th Queue (ft)	8	19	129
Link Distance (ft)	131	131	37
Upstream Blk Time (%)			28
Queuing Penalty (veh)			40
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 15: Idlewild Road

Movement	EB	EB	EB
Directions Served	T	T	R
Maximum Queue (ft)	333	349	74
Average Queue (ft)	214	228	7
95th Queue (ft)	342	350	37
Link Distance (ft)	289	289	289
Upstream Blk Time (%)	3	4	
Queuing Penalty (veh)	18	23	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 17: Idlewild Road

Movement	EB	EB	EB	EB
Directions Served	L	T	T	T
Maximum Queue (ft)	56	492	516	534
Average Queue (ft)	9	337	349	374
95th Queue (ft)	122	523	534	538
Link Distance (ft)		560	560	560
Upstream Blk Time (%)	0	1	1	1
Queuing Penalty (veh)	0	5	5	7
Storage Bay Dist (ft)	500			
Storage Blk Time (%)	0	2		
Queuing Penalty (veh)	0	4		

Intersection: 19: Idlewild Road

Movement	WB	WB	WB	WB
Directions Served	T	T	T	R
Maximum Queue (ft)	204	193	183	175
Average Queue (ft)	181	151	133	38
95th Queue (ft)	216	225	210	140
Link Distance (ft)	118	118	118	118
Upstream Blk Time (%)	45	23	17	3
Queuing Penalty (veh)	311	155	114	20
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 21: Idlewild Road

Movement	EB	EB	EB	WB	WB	WB
Directions Served	T	T	T	R	R	R
Maximum Queue (ft)	73	116	119	452	448	432
Average Queue (ft)	4	7	7	287	277	250
95th Queue (ft)	42	55	54	514	533	522
Link Distance (ft)	96	96	96	376	376	376
Upstream Blk Time (%)	0	0	0	15	12	7
Queuing Penalty (veh)	3	3	3	136	110	61
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 22: I-485 Northbound On Ramp

Movement	EB	NB
Directions Served	L	T
Maximum Queue (ft)	20	221
Average Queue (ft)	1	110
95th Queue (ft)	9	218
Link Distance (ft)	137	124
Upstream Blk Time (%)		6
Queuing Penalty (veh)		48
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 23: I-485 Northbound Off ramp

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 33: Idlewild Road

Movement	EB	EB	NB	NB
Directions Served	T	T	T	T
Maximum Queue (ft)	170	183	120	101
Average Queue (ft)	150	158	88	84
95th Queue (ft)	160	171	112	103
Link Distance (ft)	92	92	27	27
Upstream Blk Time (%)	39	41	44	48
Queuing Penalty (veh)	280	296	261	284
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 44:

Movement	WB	WB	WB	SB	SB	SB
Directions Served	T	T	T	T	T	T
Maximum Queue (ft)	152	159	164	97	96	89
Average Queue (ft)	127	131	141	79	76	73
95th Queue (ft)	139	159	161	86	85	82
Link Distance (ft)	63	63	63	23	23	23
Upstream Blk Time (%)	53	45	42	47	50	56
Queuing Penalty (veh)	351	297	279	318	336	375
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 333: Idlewild Road & I-485 Southbound Off Ramp

Movement	EB	EB	SB	SB
Directions Served	T	T	L	L
Maximum Queue (ft)	34	49	332	353
Average Queue (ft)	8	15	207	234
95th Queue (ft)	28	41	305	328
Link Distance (ft)	18	18		688
Upstream Blk Time (%)	20	23		
Queuing Penalty (veh)	143	163		
Storage Bay Dist (ft)			500	
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 444: I-485 Northbound Off Ramp & Idlewild Road

Movement	EB	EB	EB	NB	NB	NB
Directions Served	T	T	T	R	R	R
Maximum Queue (ft)	110	113	124	321	299	260
Average Queue (ft)	59	61	75	215	190	152
95th Queue (ft)	113	115	124	292	266	230
Link Distance (ft)	80	80	80	598	598	
Upstream Blk Time (%)	18	19	26			
Queuing Penalty (veh)	119	125	173			
Storage Bay Dist (ft)						400
Storage Blk Time (%)					0	
Queuing Penalty (veh)					0	

Network Summary

Network wide Queuing Penalty: 5740