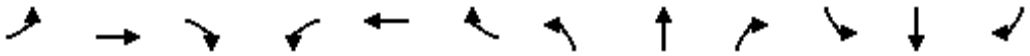
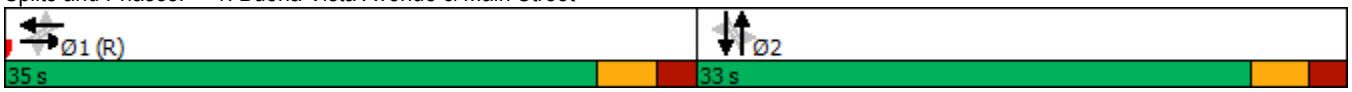


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	49	133	46	35	81	46	297	24	60	337	7
Future Volume (vph)	6	49	133	46	35	81	46	297	24	60	337	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	16	16	16	14	14	14	11	11	11	13	13	13
Storage Length (ft)	150		150	150		150	150		150	150		150
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.94			0.93			0.99			1.00	
Frt		0.905			0.932			0.991			0.998	
Flt Protected		0.998			0.986			0.994			0.993	
Satd. Flow (prot)	0	1529	0	0	1345	0	0	1483	0	0	1653	0
Flt Permitted		0.992			0.875			0.914			0.897	
Satd. Flow (perm)	0	1520	0	0	1194	0	0	1364	0	0	1493	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		113			249			300			234	
Travel Time (s)		2.6			5.7			6.8			5.3	
Confl. Peds. (#/hr)			52			111			63			41
Peak Hour Factor	0.89	0.89	0.89	0.86	0.86	0.86	0.90	0.90	0.90	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	9%	9%	9%	3%	3%	3%	11%	11%	11%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	14	0
Parking (#/hr)		10			10			10				
Adj. Flow (vph)	7	55	149	53	41	94	51	330	27	65	366	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	211	0	0	188	0	0	408	0	0	439	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	0.85	1.05	0.85	0.92	1.13	0.92	1.04	1.28	1.04	0.96	1.03	0.96
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		1			1			2			2	
Permitted Phases	1			1			2			2		
Minimum Split (s)	34.0	34.0		34.0	34.0		32.0	32.0		32.0	32.0	
Total Split (s)	35.0	35.0		35.0	35.0		33.0	33.0		33.0	33.0	
Total Split (%)	51.5%	51.5%		51.5%	51.5%		48.5%	48.5%		48.5%	48.5%	
Maximum Green (s)	30.0	30.0		30.0	30.0		28.0	28.0		28.0	28.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag	Lead	Lead		Lead	Lead		Lag	Lag		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)	15.0	15.0		15.0	15.0		15.0	15.0		15.0	15.0	
Flash Dont Walk (s)	14.0	14.0		14.0	14.0		12.0	12.0		12.0	12.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		30.0			30.0			28.0			28.0	
Actuated g/C Ratio		0.44			0.44			0.41			0.41	
v/c Ratio		0.31			0.36			0.73			0.71	
Control Delay		14.0			15.1			26.3			24.8	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		14.0			15.1			26.3			24.8	
LOS		B			B			C			C	
Approach Delay		14.0			15.1			26.3			24.8	
Approach LOS		B			B			C			C	
Queue Length 50th (ft)		54			50			138			147	
Queue Length 95th (ft)		99			90			#271			#256	
Internal Link Dist (ft)		33			169			220			154	
Turn Bay Length (ft)												
Base Capacity (vph)		670			526			561			614	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.31			0.36			0.73			0.71	

Intersection Summary			
Area Type:	Other		
Cycle Length: 68			
Actuated Cycle Length: 68			
Offset: 0 (0%), Referenced to phase 1:EBWB, Start of Green			
Natural Cycle: 70			
Control Type: Pretimed			
Maximum v/c Ratio: 0.73			
Intersection Signal Delay: 22.0		Intersection LOS: C	
Intersection Capacity Utilization 73.4%		ICU Level of Service D	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 1: Buena Vista Avenue & Main Street

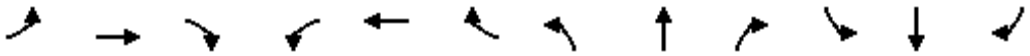


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	29	20	347	37	53	463
Future Volume (vph)	29	20	347	37	53	463
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	16	16	16	16
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.945		0.987			
Flt Protected	0.971					0.995
Satd. Flow (prot)	1314	0	1512	0	0	2021
Flt Permitted	0.971					0.995
Satd. Flow (perm)	1314	0	1512	0	0	2021
Link Speed (mph)	30		30			30
Link Distance (ft)	240		235			300
Travel Time (s)	5.5		5.3			6.8
Confl. Peds. (#/hr)	48			4	20	
Peak Hour Factor	0.81	0.81	0.93	0.93	0.83	0.83
Heavy Vehicles (%)	9%	9%	23%	23%	6%	6%
Parking (#/hr)	10		5			
Adj. Flow (vph)	36	25	373	40	64	558
Shared Lane Traffic (%)						
Lane Group Flow (vph)	61	0	413	0	0	622
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	11		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.28	1.04	1.01	0.85	0.85	0.85
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Stop			Stop

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 61.2%		ICU Level of Service B	
Analysis Period (min) 15			

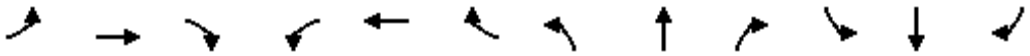
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	104	249	135	194	336	156
Future Volume (vph)	104	249	135	194	336	156
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	15	15	9	9	16	16
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt		0.850	0.920			
Flt Protected	0.950					0.967
Satd. Flow (prot)	1891	1692	1275	0	0	1843
Flt Permitted	0.950					0.967
Satd. Flow (perm)	1891	1692	1275	0	0	1843
Link Speed (mph)	30		30			30
Link Distance (ft)	256		433			284
Travel Time (s)	5.8		9.8			6.5
Confl. Peds. (#/hr)	17			5	20	
Peak Hour Factor	0.86	0.86	0.85	0.85	0.82	0.82
Heavy Vehicles (%)	5%	5%	8%	8%	13%	13%
Parking (#/hr)			5			
Adj. Flow (vph)	121	290	159	228	410	190
Shared Lane Traffic (%)						
Lane Group Flow (vph)	121	290	387	0	0	600
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	20		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	0.88	0.88	1.35	1.14	0.85	0.85
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Stop			Stop

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 61.9%		ICU Level of Service B	
Analysis Period (min) 15			



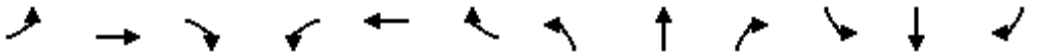
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	106	27	27	134	0	18	0	32	4	0	10
Future Volume (vph)	0	106	27	27	134	0	18	0	32	4	0	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	15	15	15	15	12	12	12	12	12	12	12
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		0.973						0.865			0.901	
Flt Protected					0.992		0.950				0.987	
Satd. Flow (prot)	0	1600	0	0	1647	0	1770	0	0	0	1657	0
Flt Permitted					0.992		0.950				0.987	
Satd. Flow (perm)	0	1600	0	0	1647	0	1770	0	0	0	1657	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		249			526			222			176	
Travel Time (s)		5.7			12.0			5.0			4.0	
Peak Hour Factor	0.92	0.89	0.89	0.86	0.86	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	8%	8%	7%	7%	2%	2%	2%	2%	2%	2%	2%
Parking (#/hr)		10			10							
Adj. Flow (vph)	0	119	30	31	156	0	20	0	35	4	0	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	149	0	0	187	0	20	35	0	0	15	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			12			12	
Link Offset(ft)		0			0			0			-50	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.09	0.88	0.88	1.09	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
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	Err%	ICU Level of Service	H
Analysis Period (min)	15		

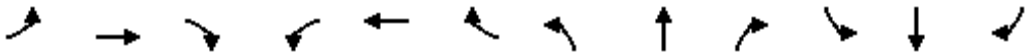


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	89	0	0	0	0	17	49	58	22	0	32
Future Volume (vph)	1	89	0	0	0	0	17	49	58	22	0	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	12	12	12	16	16	16	13	13	13
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt								0.937			0.919	
Flt Protected								0.993			0.980	
Satd. Flow (prot)	0	1422	0	0	0	0	0	1579	0	0	1607	0
Flt Permitted								0.993			0.980	
Satd. Flow (perm)	0	1422	0	0	0	0	0	1579	0	0	1607	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		240			538			516			81	
Travel Time (s)		5.5			12.2			11.7			1.8	
Confl. Peds. (#/hr)			22			21			14			39
Peak Hour Factor	0.82	0.82	0.82	0.92	0.92	0.92	0.86	0.86	0.86	0.81	0.81	0.81
Heavy Vehicles (%)	13%	13%	13%	2%	2%	2%	11%	11%	11%	10%	10%	10%
Parking (#/hr)		5						5				
Adj. Flow (vph)	1	109	0	0	0	0	20	57	67	27	0	40
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	110	0	0	0	0	0	144	0	0	67	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	1.04	1.24	1.04	1.00	1.00	1.00	0.85	1.01	0.85	0.96	0.96	0.96
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 28.5%		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)	17	245	45	57	163	82	23	229	62	111	244	14
Future Volume (vph)	17	245	45	57	163	82	23	229	62	111	244	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	9	13	13	16	16	16	9	11	11
Storage Length (ft)	0		0	60		0	0		0	100		0
Storage Lanes	0		0	1		0	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.980			0.950			0.973			0.992	
Flt Protected		0.997		0.950				0.996		0.950		
Satd. Flow (prot)	0	1354	0	1518	1743	0	0	1588	0	1562	1752	0
Flt Permitted		0.977		0.479				0.960		0.323		
Satd. Flow (perm)	0	1326	0	766	1743	0	0	1530	0	531	1752	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			26			15			5	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		239			672			1367			278	
Travel Time (s)		5.4			15.3			31.1			6.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.86	0.86	0.86	0.92	0.92	0.92
Heavy Vehicles (%)	12%	12%	12%	7%	7%	7%	15%	15%	15%	4%	4%	4%
Parking (#/hr)		5						5				
Adj. Flow (vph)	18	266	49	62	177	89	27	266	72	121	265	15
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	333	0	62	266	0	0	365	0	121	280	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			9			0			9	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.09	1.29	1.09	1.14	0.96	0.96	0.85	1.01	0.85	1.14	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		2			6			8		7	4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		10.0	10.0		5.0	10.0	
Minimum Split (s)	32.0	32.0		32.0	32.0		32.0	32.0		10.0	32.0	
Total Split (s)	36.0	36.0		36.0	36.0		47.0	47.0		17.0	64.0	
Total Split (%)	36.0%	36.0%		36.0%	36.0%		47.0%	47.0%		17.0%	64.0%	
Maximum Green (s)	31.0	31.0		31.0	31.0		42.0	42.0		12.0	59.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)		5.0		5.0	5.0			5.0		5.0	5.0	
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?							Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Ped	Ped		C-Max	C-Max		Ped	Ped		Max	Ped	
Walk Time (s)	15.0	15.0		15.0	15.0		15.0	15.0			15.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		12.0	12.0			12.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0			0	
Act Effct Green (s)		42.2		42.2	42.2			30.8		47.8	47.8	
Actuated g/C Ratio		0.42		0.42	0.42			0.31		0.48	0.48	
v/c Ratio		0.59		0.19	0.35			0.76		0.32	0.33	
Control Delay		28.4		26.4	23.6			40.3		16.2	16.5	
Queue Delay		0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay		28.4		26.4	23.6			40.3		16.2	16.5	
LOS		C		C	C			D		B	B	
Approach Delay		28.4			24.1			40.3			16.4	
Approach LOS		C			C			D			B	
Queue Length 50th (ft)		147		21	83			210		45	111	
Queue Length 95th (ft)		#293		m41	154			255		63	136	
Internal Link Dist (ft)		159			592			1287			198	
Turn Bay Length (ft)				60						100		
Base Capacity (vph)		564		323	750			651		377	1035	
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		0.59		0.19	0.35			0.56		0.32	0.27	

Intersection Summary	
Area Type:	Other
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 0 (0%), Referenced to phase 6:WBTL, Start of Green	
Natural Cycle: 75	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.76	
Intersection Signal Delay: 27.1	Intersection LOS: C

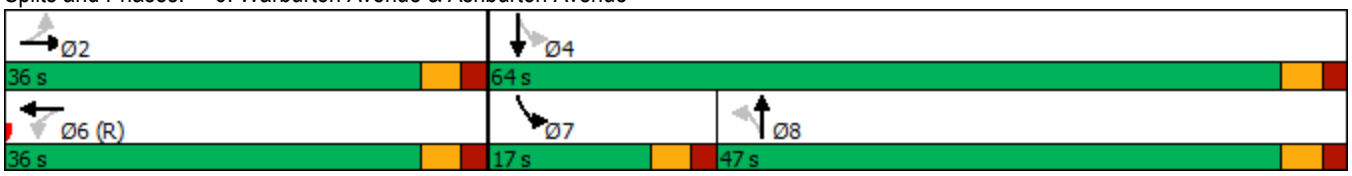
Intersection Capacity Utilization 73.1% ICU Level of Service D

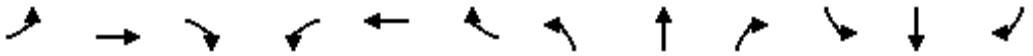
Analysis Period (min) 15

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

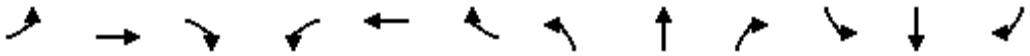
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Warburton Avenue & Ashburton Avenue





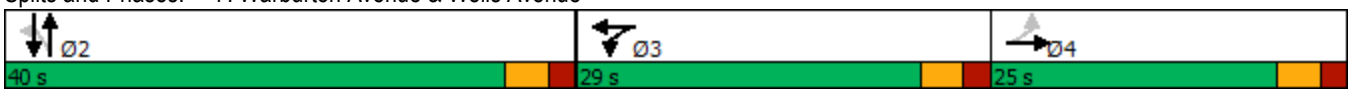
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	0	10	329	50	113	31	261	0	0	391	7
Future Volume (vph)	2	0	10	329	50	113	31	261	0	0	391	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	13	9	9	14	14	14	14	14	14
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		0.890			0.896						0.998	
Flt Protected		0.991		0.950				0.995				
Satd. Flow (prot)	0	1643	0	1600	1502	0	0	1680	0	0	1686	0
Flt Permitted		0.890		0.950				0.923				
Satd. Flow (perm)	0	1475	0	1600	1502	0	0	1559	0	0	1686	0
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)		81									1	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		49			114			382			1367	
Travel Time (s)		1.1			2.6			8.7			31.1	
Peak Hour Factor	0.80	0.80	0.80	0.91	0.91	0.91	0.86	0.86	0.86	0.85	0.85	0.85
Parking (#/hr)				5		5		10			10	
Adj. Flow (vph)	3	0	13	362	55	124	36	303	0	0	460	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	16	0	362	179	0	0	339	0	0	468	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)		13			13			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	1.14	1.14	1.14	0.92	1.13	0.92	0.92	1.13	0.92
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2			2	
Detector Template	Left	Thru		Left	Thru		Left	Thru			Thru	
Leading Detector (ft)	20	100		20	100		20	100			100	
Trailing Detector (ft)	0	0		0	0		0	0			0	
Detector 1 Position(ft)	0	0		0	0		0	0			0	
Detector 1 Size(ft)	20	6		20	6		20	6			6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex			Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Split	NA		Perm	NA			NA	
Protected Phases		4		3	3			2			2	
Permitted Phases	4						2	2				
Detector Phase	4	4		3	3		2	2			2	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0			5.0	
Minimum Split (s)	24.0	24.0		28.0	28.0		39.0	39.0			39.0	
Total Split (s)	25.0	25.0		29.0	29.0		40.0	40.0			40.0	
Total Split (%)	26.6%	26.6%		30.9%	30.9%		42.6%	42.6%			42.6%	
Maximum Green (s)	20.0	20.0		24.0	24.0		35.0	35.0			35.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0			3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0			2.0	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0			0.0	
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			3.0	
Recall Mode	None	None		Ped	Ped		Ped	Ped			Ped	
Walk Time (s)	7.0	7.0		11.0	11.0		24.0	24.0			24.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		10.0	10.0			10.0	
Pedestrian Calls (#/hr)	5	5		0	0		0	0			0	
Act Effct Green (s)		7.8		23.8	23.8			34.7			34.7	
Actuated g/C Ratio		0.10		0.32	0.32			0.47			0.47	
v/c Ratio		0.07		0.71	0.37			0.47			0.60	
Control Delay		0.6		34.2	25.0			18.6			21.0	
Queue Delay		0.0		0.0	0.0			0.3			0.0	
Total Delay		0.6		34.2	25.0			18.9			21.0	
LOS		A		C	C			B			C	
Approach Delay		0.6			31.1			18.9			21.0	
Approach LOS		A			C			B			C	
Queue Length 50th (ft)		0		124	54			82			121	
Queue Length 95th (ft)		0		#364	153			231			324	
Internal Link Dist (ft)		1			34			302			1287	
Turn Bay Length (ft)												
Base Capacity (vph)		461		524	492			744			806	
Starvation Cap Reductn		0		0	0			104			0	
Spillback Cap Reductn		0		0	0			0			0	
Storage Cap Reductn		0		0	0			0			0	
Reduced v/c Ratio		0.03		0.69	0.36			0.53			0.58	

Intersection Summary			
Area Type:	Other		
Cycle Length: 94			
Actuated Cycle Length: 74.5			
Natural Cycle: 95			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.71			
Intersection Signal Delay: 24.2		Intersection LOS: C	
Intersection Capacity Utilization 72.9%		ICU Level of Service C	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 7: Warburton Avenue & Wells Avenue



Lane Group	NBL2	NBL	NBT	NBR	SBL	SBT	SBR2	NEL2	NEL	NER	NER2	Ø9
Lane Configurations												
Traffic Volume (vph)	1	82	280	165	17	624	89	8	12	31	21	
Future Volume (vph)	1	82	280	165	17	624	89	8	12	31	21	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	16	16	12	12	16	12	12	
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	
Ped Bike Factor			0.96						0.94			
Frt			0.944			0.983			0.903			
Flt Protected		0.950				0.999			0.986			
Satd. Flow (prot)	0	1583	1287	0	0	1822	0	0	1415	0	0	
Flt Permitted		0.300				0.982			0.986			
Satd. Flow (perm)	0	500	1287	0	0	1791	0	0	1415	0	0	
Right Turn on Red				Yes			Yes				Yes	
Satd. Flow (RTOR)			37			84			84			
Link Speed (mph)			30			30			30			
Link Distance (ft)			431			382			174			
Travel Time (s)			9.8			8.7			4.0			
Confl. Peds. (#/hr)				60						23		
Peak Hour Factor	0.86	0.86	0.86	0.86	0.93	0.93	0.93	0.81	0.81	0.81	0.81	
Heavy Vehicles (%)	14%	14%	14%	14%	10%	10%	10%	11%	11%	11%	11%	
Bus Blockages (#/hr)	0	0	0	0	0	13	0	0	0	0	0	
Parking (#/hr)			10						5			
Adj. Flow (vph)	1	95	326	192	18	671	96	10	15	38	26	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	96	518	0	0	785	0	0	89	0	0	
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	
Lane Alignment	Left	Left	Left	Right	Left	Left	Right	Left	Left	Right	Right	
Median Width(ft)			12			0			16			
Link Offset(ft)			0			0			80			
Crosswalk Width(ft)			16			16			16			
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.23	1.00	0.85	0.91	1.00	1.00	1.01	1.00	1.00	
Turning Speed (mph)	15	15		9	15		9	15	15	9	9	
Number of Detectors	1	1	2		1	2		1	1			
Detector Template	Left	Left	Thru		Left	Thru		Left	Left			
Leading Detector (ft)	20	20	100		20	100		20	20			
Trailing Detector (ft)	0	0	0		0	0		0	0			
Detector 1 Position(ft)	0	0	0		0	0		0	0			
Detector 1 Size(ft)	20	20	6		20	6		20	20			
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0		0.0	0.0			
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0		0.0	0.0			
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0		0.0	0.0			
Detector 2 Position(ft)			94			94						
Detector 2 Size(ft)			6			6						
Detector 2 Type			Cl+Ex			Cl+Ex						
Detector 2 Channel												
Detector 2 Extend (s)			0.0			0.0						

Lane Group	NBL2	NBL	NBT	NBR	SBL	SBT	SBR2	NEL2	NEL	NER	NER2	Ø9
Turn Type	Perm	Perm	NA		Perm	NA		Perm	Prot			
Protected Phases			3			3			1			9
Permitted Phases	3	3			3			1				
Detector Phase	3	3	3		3	3		1	1			
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0		5.0	5.0			1.0
Minimum Split (s)	13.0	13.0	13.0		13.0	13.0		13.0	13.0			27.0
Total Split (s)	41.0	41.0	41.0		41.0	41.0		23.0	23.0			27.0
Total Split (%)	45.1%	45.1%	45.1%		45.1%	45.1%		25.3%	25.3%			30%
Maximum Green (s)	33.0	33.0	33.0		33.0	33.0		15.0	15.0			25.0
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0		4.0	4.0			2.0
All-Red Time (s)	4.0	4.0	4.0		4.0	4.0		4.0	4.0			0.0
Lost Time Adjust (s)		0.0	0.0			0.0			0.0			
Total Lost Time (s)		8.0	8.0			8.0			8.0			
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0		3.0	3.0			3.0
Recall Mode	Max	Max	Max		Max	Max		Max	Max			None
Walk Time (s)												10.0
Flash Dont Walk (s)												15.0
Pedestrian Calls (#/hr)												5
Act Effct Green (s)		33.7	33.7			33.7			15.3			
Actuated g/C Ratio		0.49	0.49			0.49			0.22			
v/c Ratio		0.40	0.81			0.86			0.24			
Control Delay		21.5	28.5			28.0			9.9			
Queue Delay		0.0	0.0			11.6			0.0			
Total Delay		21.5	28.5			39.6			9.9			
LOS		C	C			D			A			
Approach Delay			27.4			39.6			9.9			
Approach LOS			C			D			A			
Queue Length 50th (ft)		21	137			211			2			
Queue Length 95th (ft)		92	#477			#719			34			
Internal Link Dist (ft)			351			302			94			
Turn Bay Length (ft)												
Base Capacity (vph)		242	643			912			377			
Starvation Cap Reductn		0	0			118			0			
Spillback Cap Reductn		0	0			0			0			
Storage Cap Reductn		0	0			0			0			
Reduced v/c Ratio		0.40	0.81			0.99			0.24			

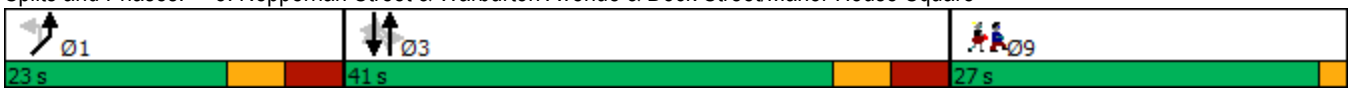
Intersection Summary			
Area Type:	Other		
Cycle Length: 91			
Actuated Cycle Length: 69.4			
Natural Cycle: 80			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.86			
Intersection Signal Delay: 32.8		Intersection LOS: C	
Intersection Capacity Utilization 71.9%		ICU Level of Service C	

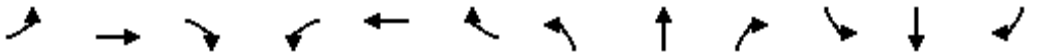
Analysis Period (min) 15

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

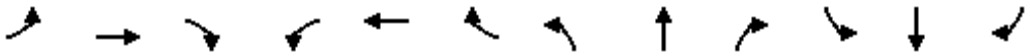
Queue shown is maximum after two cycles.

Splits and Phases: 8: Nepperhan Street & Warburton Avenue & Dock Street/Manor House Square





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	44	0	98	76	66	77	32	407	0	0	582	63
Future Volume (vph)	44	0	98	76	66	77	32	407	0	0	582	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	16	16	16	13	15	15	9	13	13	12	12	12
Storage Length (ft)	0		0	0		0	75		0	0		0
Storage Lanes	0		0	1		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Ped Bike Factor		0.96			0.96						0.99	
Frt		0.907			0.919						0.985	
Flt Protected		0.985		0.950			0.950					
Satd. Flow (prot)	0	1360	0	1622	1363	0	1438	3033	0	0	2933	0
Flt Permitted		0.857		0.623			0.305					
Satd. Flow (perm)	0	1183	0	1064	1363	0	462	3033	0	0	2933	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		119			62						13	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		526			497			325			431	
Travel Time (s)		12.0			11.3			7.4			9.8	
Confl. Peds. (#/hr)			41			65			58			58
Peak Hour Factor	0.81	0.81	0.81	0.86	0.86	0.86	0.89	0.89	0.89	0.96	0.96	0.96
Heavy Vehicles (%)	16%	16%	16%	15%	15%	15%	13%	13%	13%	11%	11%	11%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	10	0	0	0	0
Parking (#/hr)		10			10			5			10	
Adj. Flow (vph)	54	0	121	88	77	90	36	457	0	0	606	66
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	175	0	88	167	0	36	457	0	0	672	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			13			12			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.85	1.05	0.85	0.96	1.09	0.88	1.14	1.07	0.96	1.00	1.11	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2			2	
Detector Template	Left	Thru		Left	Thru		Left	Thru			Thru	
Leading Detector (ft)	20	100		20	100		20	100			100	
Trailing Detector (ft)	0	0		0	0		0	0			0	
Detector 1 Position(ft)	0	0		0	0		0	0			0	
Detector 1 Size(ft)	20	6		20	6		20	6			6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex			Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	

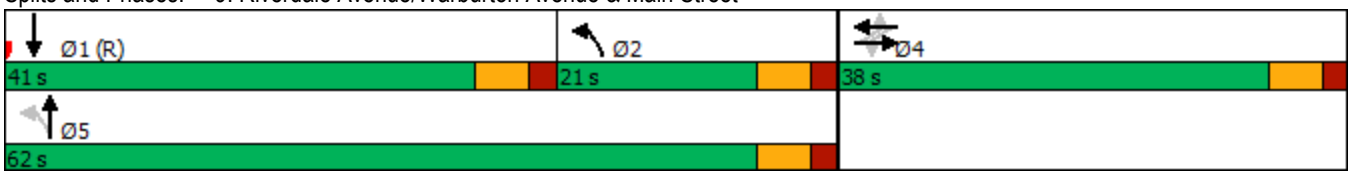


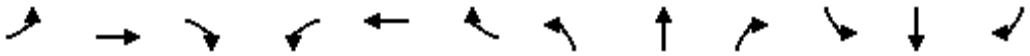
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA			NA	
Protected Phases		4			4		2	5			1	
Permitted Phases	4			4			5					
Detector Phase	4	4		4	4		2	5			1	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0			5.0	
Minimum Split (s)	37.0	37.0		37.0	37.0		11.0	11.0			40.0	
Total Split (s)	38.0	38.0		38.0	38.0		21.0	62.0			41.0	
Total Split (%)	38.0%	38.0%		38.0%	38.0%		21.0%	62.0%			41.0%	
Maximum Green (s)	32.0	32.0		32.0	32.0		15.0	56.0			35.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0			2.0	
Lost Time Adjust (s)		0.0		0.0	0.0		0.0	0.0			0.0	
Total Lost Time (s)		6.0		6.0	6.0		6.0	6.0			6.0	
Lead/Lag							Lag				Lead	
Lead-Lag Optimize?							Yes				Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0			3.0	
Recall Mode	Ped	Ped		Ped	Ped		Max	Max			C-Max	
Walk Time (s)	10.0	10.0		10.0	10.0						18.0	
Flash Dont Walk (s)	21.0	21.0		21.0	21.0						16.0	
Pedestrian Calls (#/hr)	0	0		0	0						0	
Act Effct Green (s)		31.0		31.0	31.0		57.0	57.0			36.0	
Actuated g/C Ratio		0.31		0.31	0.31		0.57	0.57			0.36	
v/c Ratio		0.39		0.27	0.36		0.09	0.26			0.63	
Control Delay		12.5		28.7	19.1		11.1	11.4			29.2	
Queue Delay		0.0		0.0	0.0		0.0	0.7			0.0	
Total Delay		12.5		28.7	19.1		11.1	12.1			29.2	
LOS		B		C	B		B	B			C	
Approach Delay		12.5			22.4			12.0			29.2	
Approach LOS		B			C			B			C	
Queue Length 50th (ft)		26		42	50		9	72			181	
Queue Length 95th (ft)		65		80	100		23	100			243	
Internal Link Dist (ft)		446			417			245			351	
Turn Bay Length (ft)							75					
Base Capacity (vph)		459		340	478		409	1728			1064	
Starvation Cap Reductn		0		0	0		0	897			0	
Spillback Cap Reductn		0		0	0		0	0			0	
Storage Cap Reductn		0		0	0		0	0			0	
Reduced v/c Ratio		0.38		0.26	0.35		0.09	0.55			0.63	

Intersection Summary	
Area Type:	Other
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 0 (0%), Referenced to phase 1:SBT, Start of Green	
Natural Cycle: 90	

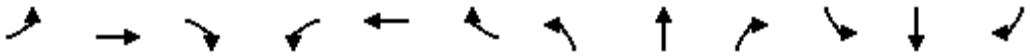
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.63	
Intersection Signal Delay: 21.0	Intersection LOS: C
Intersection Capacity Utilization 89.8%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 9: Riverdale Avenue/Warburton Avenue & Main Street





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	98	55	0	0	0	0	423	109	147	609	0
Future Volume (vph)	16	98	55	0	0	0	0	423	109	147	609	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	16	16	16	12	12	12	11	11	11	9	12	12
Storage Length (ft)	0		0	0		0	0		0	125		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Ped Bike Factor		0.96						0.99				
Frt		0.956						0.969				
Flt Protected		0.995								0.950		
Satd. Flow (prot)	0	1408	0	0	0	0	0	2837	0	1438	2825	0
Flt Permitted		0.995								0.390		
Satd. Flow (perm)	0	1408	0	0	0	0	0	2837	0	590	2825	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		24						36				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		538			379			525			325	
Travel Time (s)		12.2			8.6			11.9			7.4	
Confl. Peds. (#/hr)			82			72			23			42
Peak Hour Factor	0.84	0.84	0.84	0.92	0.92	0.92	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	19%	19%	19%	2%	2%	2%	14%	14%	14%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	15	0	0	22	0
Parking (#/hr)		10									10	
Adj. Flow (vph)	19	117	65	0	0	0	0	455	117	158	655	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	201	0	0	0	0	0	572	0	158	655	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			8			8	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.85	1.05	0.85	1.00	1.00	1.00	1.04	1.09	1.04	1.14	1.17	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2						2		1	2	
Detector Template	Left	Thru						Thru		Left	Thru	
Leading Detector (ft)	20	100						100		20	100	
Trailing Detector (ft)	0	0						0		0	0	
Detector 1 Position(ft)	0	0						0		0	0	
Detector 1 Size(ft)	20	6						6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex						Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0						0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0						0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0						0.0		0.0	0.0	
Detector 2 Position(ft)		94						94			94	
Detector 2 Size(ft)		6						6			6	

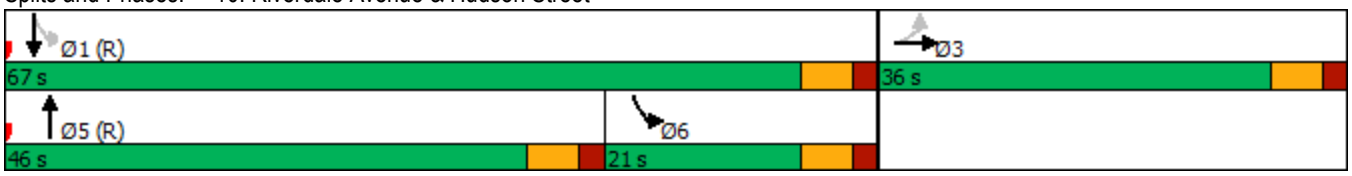


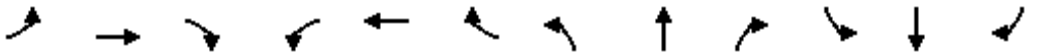
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Type		Cl+Ex						Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0						0.0			0.0	
Turn Type	Perm	NA						NA		pm+pt	NA	
Protected Phases		3						5		6	1	
Permitted Phases	3									1		
Detector Phase	3	3						5		6	1	
Switch Phase												
Minimum Initial (s)	10.0	10.0						5.0		10.0	5.0	
Minimum Split (s)	30.0	30.0						30.0		16.0	30.0	
Total Split (s)	36.0	36.0						46.0		21.0	67.0	
Total Split (%)	35.0%	35.0%						44.7%		20.4%	65.0%	
Maximum Green (s)	30.0	30.0						40.0		15.0	61.0	
Yellow Time (s)	4.0	4.0						4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0						2.0		2.0	2.0	
Lost Time Adjust (s)		0.0						0.0		0.0	0.0	
Total Lost Time (s)		6.0						6.0		6.0	6.0	
Lead/Lag								Lead		Lag		
Lead-Lag Optimize?								Yes		Yes		
Vehicle Extension (s)	3.0	3.0						3.0		3.0	3.0	
Recall Mode	Ped	Ped						C-Max		Max	C-Max	
Walk Time (s)	10.0	10.0						10.0			10.0	
Flash Dont Walk (s)	14.0	14.0						14.0			14.0	
Pedestrian Calls (#/hr)	0	0						0			0	
Act Effct Green (s)		24.5						45.5		66.5	66.5	
Actuated g/C Ratio		0.24						0.44		0.65	0.65	
v/c Ratio		0.57						0.45		0.31	0.36	
Control Delay		37.4						20.1		11.4	9.2	
Queue Delay		0.0						0.0		0.0	1.2	
Total Delay		37.4						20.1		11.4	10.3	
LOS		D						C		B	B	
Approach Delay		37.4						20.1			10.5	
Approach LOS		D						C			B	
Queue Length 50th (ft)		104						124		37	93	
Queue Length 95th (ft)		160						179		69	135	
Internal Link Dist (ft)		458			299			445			245	
Turn Bay Length (ft)										125		
Base Capacity (vph)		427						1274		504	1824	
Starvation Cap Reductn		0						0		0	886	
Spillback Cap Reductn		0						0		0	0	
Storage Cap Reductn		0						0		0	0	
Reduced v/c Ratio		0.47						0.45		0.31	0.70	

Intersection Summary	
Area Type:	Other
Cycle Length: 103	
Actuated Cycle Length: 103	
Offset: 0 (0%), Referenced to phase 1:SBTL and 5:NBT, Start of Green	
Natural Cycle: 80	

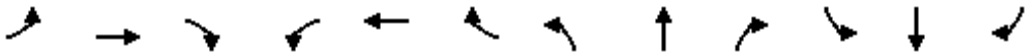
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.57	
Intersection Signal Delay: 17.4	Intersection LOS: B
Intersection Capacity Utilization 63.3%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 10: Riverdale Avenue & Hudson Street





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	359	89	430	505	154	110	365	409	155	432	31
Future Volume (vph)	13	359	89	430	505	154	110	365	409	155	432	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	16	16	16	12	12	12	10	11	11	10	11	11
Storage Length (ft)	0		0	160		0	100		0	155		0
Storage Lanes	0		0	1		1	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Ped Bike Factor		0.97				0.87		0.95				0.94
Frt		0.971				0.850		0.921				0.850
Flt Protected		0.999		0.950			0.950			0.950		
Satd. Flow (prot)	0	3486	0	1671	1792	1292	1560	2643	0	1392	3202	1220
Flt Permitted		0.858		0.357			0.217			0.274		
Satd. Flow (perm)	0	2994	0	628	1792	1130	356	2643	0	402	3202	1144
Right Turn on Red			Yes			Yes			No			Yes
Satd. Flow (RTOR)		27				93						149
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		511			403			1044			525	
Travel Time (s)		11.6			9.2			23.7			11.9	
Confl. Peds. (#/hr)			167			116			75			51
Peak Hour Factor	0.86	0.86	0.86	0.96	0.96	0.96	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	58%	7%	14%	8%	6%	18%	8%	9%	6%	21%	9%	28%
Bus Blockages (#/hr)	0	1	0	0	0	14	0	0	0	0	0	0
Parking (#/hr)								10				
Adj. Flow (vph)	15	417	103	448	526	160	122	406	454	172	480	34
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	535	0	448	526	160	122	860	0	172	480	34
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			10			16	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.85	0.85	0.85	1.00	1.00	1.08	1.09	1.15	1.04	1.09	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	Perm
Protected Phases		7		8	3	6	1	5		6	2	
Permitted Phases	7			3		3	5			2		2
Detector Phase	7	7		8	3	6	1	5		6	2	2
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	39.0	39.0		11.0	39.0	11.0	11.0	39.0		11.0	39.0	39.0
Total Split (s)	39.0	39.0		16.0	55.0	16.0	16.0	39.0		16.0	39.0	39.0
Total Split (%)	35.5%	35.5%		14.5%	50.0%	14.5%	14.5%	35.5%		14.5%	35.5%	35.5%
Maximum Green (s)	33.0	33.0		10.0	49.0	10.0	10.0	33.0		10.0	33.0	33.0
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
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)		0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)		6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0
Lead/Lag	Lead	Lead		Lag		Lag	Lead	Lead		Lag	Lag	Lag
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	3.0
Recall Mode	Ped	Ped		Max	C-Max	Max	Max	Ped		Max	Ped	Ped
Walk Time (s)	7.0	7.0			7.0			15.0			15.0	15.0
Flash Dont Walk (s)	26.0	26.0			26.0			18.0			18.0	18.0
Pedestrian Calls (#/hr)	0	0			0			0			0	0
Act Effct Green (s)		33.0		49.0	49.0	59.0	33.0	33.0		33.0	33.0	33.0
Actuated g/C Ratio		0.30		0.45	0.45	0.54	0.30	0.30		0.30	0.30	0.30
v/c Ratio		0.58		1.20	0.66	0.24	0.56	1.27dr		0.82	0.50	0.08
Control Delay		34.0		125.9	10.4	1.4	46.4	98.4		71.1	33.9	0.3
Queue Delay		0.0		0.0	0.6	0.0	0.0	5.9		74.9	0.0	0.0
Total Delay		34.0		125.9	11.0	1.4	46.4	104.3		146.0	33.9	0.3
LOS		C		F	B	A	D	F		F	C	A
Approach Delay		34.0			55.0			97.1			60.3	
Approach LOS		C			E			F			E	
Queue Length 50th (ft)		160		~205	52	3	81	~370		97	146	0
Queue Length 95th (ft)		204		#549	79	m7	m102	m#443		#211	198	0
Internal Link Dist (ft)		431			323			964			445	
Turn Bay Length (ft)				160			100			155		
Base Capacity (vph)		917		374	798	663	216	792		210	960	447
Starvation Cap Reductn		0		0	69	0	0	0		0	0	0
Spillback Cap Reductn		3		0	0	0	0	33		132	0	0
Storage Cap Reductn		0		0	0	0	0	0		0	0	0
Reduced v/c Ratio		0.59		1.20	0.72	0.24	0.56	1.13		2.21	0.50	0.08

Intersection Summary	
Area Type:	Other
Cycle Length: 110	
Actuated Cycle Length: 110	
Offset: 25 (23%), Referenced to phase 3:WBTL, Start of Green	
Natural Cycle: 120	

Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.20	
Intersection Signal Delay: 65.1	Intersection LOS: E
Intersection Capacity Utilization 111.1%	ICU Level of Service H
Analysis Period (min) 15	

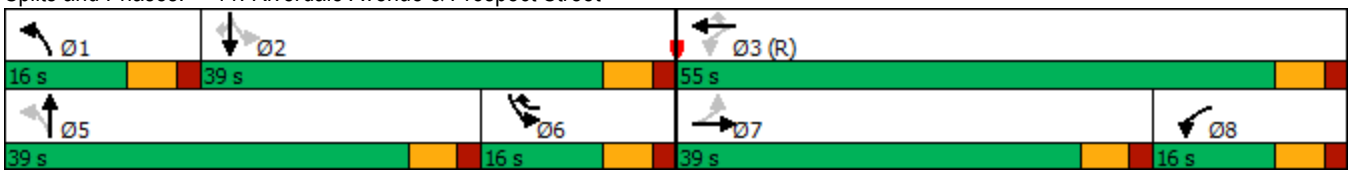
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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.

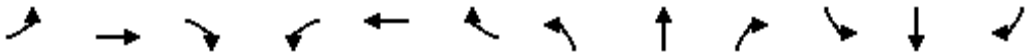
dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Splits and Phases: 11: Riverdale Avenue & Prospect Street



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	147	58	33	38	17	35	20	702	136	114	773	64
Future Volume (vph)	147	58	33	38	17	35	20	702	136	114	773	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	13	13	16	16	16	9	12	12	10	13	13
Storage Length (ft)	0		0	0		0	165		0	125		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.981			0.947			0.976			0.989	
Flt Protected		0.970			0.979		0.950			0.950		
Satd. Flow (prot)	0	1832	0	0	1713	0	1593	3200	0	1652	3346	0
Flt Permitted		0.766			0.807		0.143			0.118		
Satd. Flow (perm)	0	1446	0	0	1412	0	240	3200	0	205	3346	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			26			21			8	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		236			1171			314			1044	
Travel Time (s)		5.4			26.6			7.1			23.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.90	0.90	0.90
Bus Blockages (#/hr)	0	0	0	0	0	0	0	6	0	0	0	0
Parking (#/hr)					5			5			10	
Adj. Flow (vph)	160	63	36	41	18	38	22	763	148	127	859	71
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	259	0	0	97	0	22	911	0	127	930	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			10			10	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.96	0.96	0.96	0.85	1.01	0.85	1.14	1.10	1.00	1.09	1.06	0.96
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	Ø3
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Bus Blockages (#/hr)	
Parking (#/hr)	
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)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			4		2	5		6	1	
Permitted Phases	4			4			5			1		
Detector Phase	4	4		4	4		2	5		6	1	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Total Split (s)	28.0	28.0		28.0	28.0		15.0	40.0		15.0	40.0	
Total Split (%)	25.5%	25.5%		25.5%	25.5%		13.6%	36.4%		13.6%	36.4%	
Maximum Green (s)	22.0	22.0		22.0	22.0		9.0	34.0		9.0	34.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0			6.0		6.0	6.0		6.0	6.0	
Lead/Lag	Lag	Lag		Lag	Lag		Lag	Lead		Lag	Lead	
Lead-Lag Optimize?	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	
Recall Mode	Max	Max		Max	Max		None	C-Max		None	C-Max	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)		45.1			45.1		40.9	34.0		45.7	42.1	
Actuated g/C Ratio		0.41			0.41		0.37	0.31		0.42	0.38	
v/c Ratio		0.43			0.16		0.13	0.91		0.66	0.72	
Control Delay		28.6			19.2		22.7	49.6		50.2	29.7	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		28.6			19.2		22.7	49.6		50.2	29.7	
LOS		C			B		C	D		D	C	
Approach Delay		28.6			19.2			49.0			32.1	
Approach LOS		C			B			D			C	
Queue Length 50th (ft)		117			29		9	317		51	231	
Queue Length 95th (ft)		#294			89		23	#440		m77	m276	
Internal Link Dist (ft)		156			1091			234			964	
Turn Bay Length (ft)							165			125		
Base Capacity (vph)		597			594		204	1003		205	1284	
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		0.43			0.16		0.11	0.91		0.62	0.72	

Intersection Summary	
Area Type:	Other
Cycle Length: 110	
Actuated Cycle Length: 110	
Offset: 0 (0%), Referenced to phase 1:SBTL and 5:NBTL, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.91	
Intersection Signal Delay: 37.9	Intersection LOS: D

Lane Group	Ø3
Turn Type	
Protected Phases	3
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	5.0
Minimum Split (s)	24.0
Total Split (s)	27.0
Total Split (%)	25%
Maximum Green (s)	24.0
Yellow Time (s)	3.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	Lead
Lead-Lag Optimize?	Yes
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	6.0
Flash Dont Walk (s)	15.0
Pedestrian Calls (#/hr)	5
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

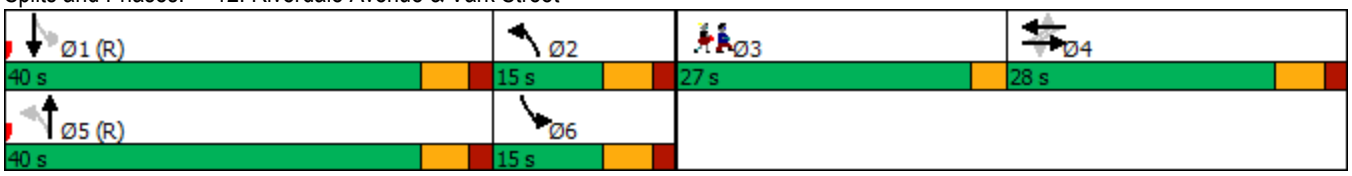
Intersection Capacity Utilization 64.9% ICU Level of Service C

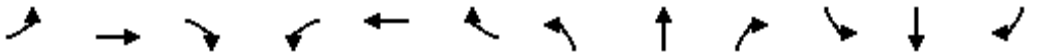
Analysis Period (min) 15

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

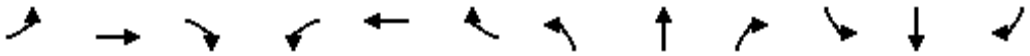
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 12: Riverdale Avenue & Vark Street





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	46	368	4	86	248	85	5	223	117	157	249	49
Future Volume (vph)	46	368	4	86	248	85	5	223	117	157	249	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	14	14	14	16	16	16	10	13	13
Storage Length (ft)	0		0	0		0	0		0	80		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999			0.973			0.954			0.975	
Flt Protected		0.995			0.990			0.999		0.950		
Satd. Flow (prot)	0	1497	0	0	1791	0	0	1832	0	1560	1772	0
Flt Permitted		0.916			0.801			0.995		0.275		
Satd. Flow (perm)	0	1379	0	0	1449	0	0	1824	0	452	1772	0
Right Turn on Red			Yes			Yes			No			Yes
Satd. Flow (RTOR)		1			15						14	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		672			208			1727			316	
Travel Time (s)		15.3			4.7			39.3			7.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	9%	9%	9%	8%	8%	8%	8%	8%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	9	0	0	0	0
Parking (#/hr)		5										
Adj. Flow (vph)	50	400	4	93	270	92	5	242	127	171	271	53
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	454	0	0	455	0	0	374	0	171	324	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			10	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.09	1.29	1.09	0.92	0.92	0.92	0.85	0.89	0.85	1.09	0.96	0.96
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												



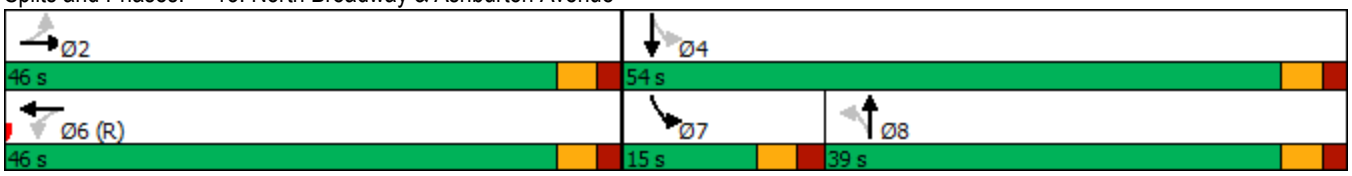
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		2			6			8		7	4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		10.0	10.0		5.0	10.0	
Minimum Split (s)	10.0	10.0		32.0	32.0		32.0	32.0		10.0	32.0	
Total Split (s)	46.0	46.0		46.0	46.0		39.0	39.0		15.0	54.0	
Total Split (%)	46.0%	46.0%		46.0%	46.0%		39.0%	39.0%		15.0%	54.0%	
Maximum Green (s)	41.0	41.0		41.0	41.0		34.0	34.0		10.0	49.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0		0.0	0.0	
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	3.0		3.0	3.0	
Recall Mode	Max	Max		C-Max	C-Max		Ped	Ped		Max	Ped	
Walk Time (s)				15.0	15.0		15.0	15.0			15.0	
Flash Dont Walk (s)				12.0	12.0		12.0	12.0			12.0	
Pedestrian Calls (#/hr)				0	0		0	0			0	
Act Effct Green (s)		46.2			46.2			28.8		43.8	43.8	
Actuated g/C Ratio		0.46			0.46			0.29		0.44	0.44	
v/c Ratio		0.71			0.67			0.71		0.56	0.41	
Control Delay		24.9			20.8			39.9		24.5	19.8	
Queue Delay		0.0			0.0			0.0		0.0	0.0	
Total Delay		24.9			20.8			39.9		24.5	19.8	
LOS		C			C			D		C	B	
Approach Delay		24.9			20.8			39.9			21.5	
Approach LOS		C			C			D			C	
Queue Length 50th (ft)		150			124			219		69	137	
Queue Length 95th (ft)		#412			176			294		102	183	
Internal Link Dist (ft)		592			128			1647			236	
Turn Bay Length (ft)										80		
Base Capacity (vph)		637			677			620		308	875	
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		0.71			0.67			0.60		0.56	0.37	

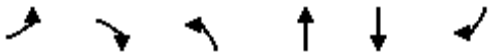
Intersection Summary	
Area Type:	Other
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 97 (97%), Referenced to phase 6:WBTL, Start of Green	
Natural Cycle: 75	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.71	

Intersection Signal Delay: 26.1	Intersection LOS: C
Intersection Capacity Utilization 86.4%	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.

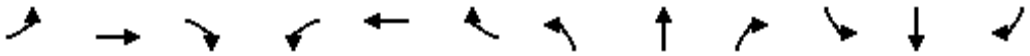
Splits and Phases: 13: North Broadway & Ashburton Avenue





Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	213	0	0	421	0	0
Future Volume (vph)	213	0	0	421	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	16	16	16	16	16	16
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected	0.950					
Satd. Flow (prot)	1705	0	0	1794	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	1705	0	0	1794	0	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	226			563	1727	
Travel Time (s)	5.1			12.8	39.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Parking (#/hr)	10			10		
Adj. Flow (vph)	232	0	0	458	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	232	0	0	458	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	16			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.05	0.85	0.85	1.05	0.85	0.85
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	40.6%	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)	0	0	0	0	154	131	65	290	0	0	0	0
Future Volume (vph)	0	0	0	0	154	131	65	290	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	16	16	16	16	16	12	12	12
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					0.938							
Flt Protected								0.991				
Satd. Flow (prot)	0	0	0	0	1980	0	0	2092	0	0	0	0
Flt Permitted								0.991				
Satd. Flow (perm)	0	0	0	0	1980	0	0	2092	0	0	0	0
Right Turn on Red			Yes			Yes	Yes		Yes			Yes
Satd. Flow (RTOR)					61			73				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		497			81			184			563	
Travel Time (s)		11.3			1.8			4.2			12.8	
Peak Hour Factor	0.92	0.92	0.92	0.86	0.86	0.86	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	179	152	71	315	0	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	331	0	0	386	0	0	0	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	0.85	0.85	0.85	0.85	0.85	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors					2		1	2				
Detector Template					Thru		Left	Thru				
Leading Detector (ft)					100		20	100				
Trailing Detector (ft)					0		0	0				
Detector 1 Position(ft)					0		0	0				
Detector 1 Size(ft)					6		20	6				
Detector 1 Type					Cl+Ex		Cl+Ex	Cl+Ex				
Detector 1 Channel												
Detector 1 Extend (s)					0.0		0.0	0.0				
Detector 1 Queue (s)					0.0		0.0	0.0				
Detector 1 Delay (s)					0.0		0.0	0.0				
Detector 2 Position(ft)					94			94				
Detector 2 Size(ft)					6			6				
Detector 2 Type					Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0				
Turn Type					NA		Perm	NA				
Protected Phases					2 6			3				
Permitted Phases							3					
Detector Phase					2 6		3	3				
Switch Phase												

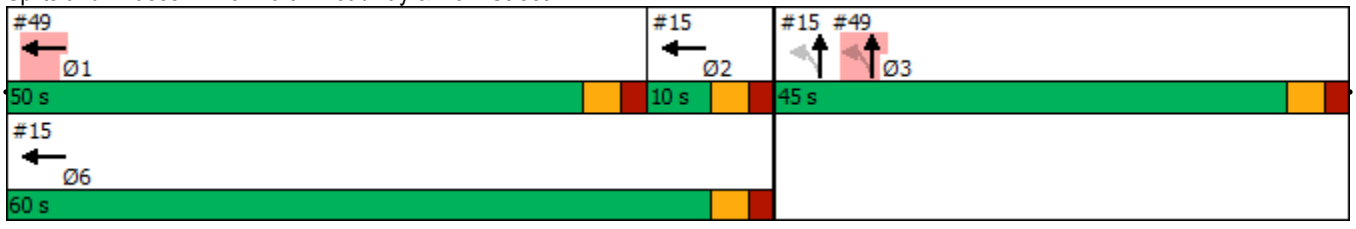
Lane Group	Ø1	Ø2	Ø6
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Lane Width (ft)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
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)			
Number of Detectors			
Detector Template			
Leading Detector (ft)			
Trailing Detector (ft)			
Detector 1 Position(ft)			
Detector 1 Size(ft)			
Detector 1 Type			
Detector 1 Channel			
Detector 1 Extend (s)			
Detector 1 Queue (s)			
Detector 1 Delay (s)			
Detector 2 Position(ft)			
Detector 2 Size(ft)			
Detector 2 Type			
Detector 2 Channel			
Detector 2 Extend (s)			
Turn Type			
Protected Phases	1	2	6
Permitted Phases			
Detector Phase			
Switch Phase			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)							5.0	5.0				
Minimum Split (s)							45.0	45.0				
Total Split (s)							45.0	45.0				
Total Split (%)							42.9%	42.9%				
Maximum Green (s)							40.0	40.0				
Yellow Time (s)							3.0	3.0				
All-Red Time (s)							2.0	2.0				
Lost Time Adjust (s)								0.0				
Total Lost Time (s)								5.0				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)							3.0	3.0				
Recall Mode							Ped	Ped				
Walk Time (s)							30.0	30.0				
Flash Dont Walk (s)							10.0	10.0				
Pedestrian Calls (#/hr)							0	0				
Act Effct Green (s)					55.0			40.0				
Actuated g/C Ratio					0.52			0.38				
v/c Ratio					0.31			0.46				
Control Delay					0.6			21.5				
Queue Delay					0.0			0.0				
Total Delay					0.6			21.5				
LOS					A			C				
Approach Delay					0.6			21.5				
Approach LOS					A			C				
Queue Length 50th (ft)					0			154				
Queue Length 95th (ft)					0			238				
Internal Link Dist (ft)		417			1			104			483	
Turn Bay Length (ft)												
Base Capacity (vph)					1066			842				
Starvation Cap Reductn					0			0				
Spillback Cap Reductn					0			0				
Storage Cap Reductn					0			0				
Reduced v/c Ratio					0.31			0.46				

Intersection Summary

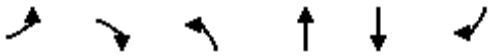
Area Type: Other
Cycle Length: 105
Actuated Cycle Length: 105
Natural Cycle: 105
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.56
Intersection Signal Delay: 11.9 Intersection LOS: B
Intersection Capacity Utilization 43.3% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 15: North Broadway & Main Street



Lane Group	Ø1	Ø2	Ø6
Minimum Initial (s)	5.0	2.0	5.0
Minimum Split (s)	50.0	7.0	10.0
Total Split (s)	50.0	10.0	60.0
Total Split (%)	48%	10%	57%
Maximum Green (s)	45.0	5.0	55.0
Yellow Time (s)	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0
Recall Mode	Ped	Max	Max
Walk Time (s)	35.0		
Flash Dont Walk (s)	10.0		
Pedestrian Calls (#/hr)	0		
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
Queue Length 50th (ft)			
Queue Length 95th (ft)			
Internal Link Dist (ft)			
Turn Bay Length (ft)			
Base Capacity (vph)			
Starvation Cap Reductn			
Spillback Cap Reductn			
Storage Cap Reductn			
Reduced v/c Ratio			

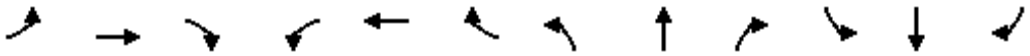
Intersection Summary



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	202	152	0	281	0	0
Future Volume (vph)	202	152	0	281	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	12	16	12	12
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.942					
Flt Protected	0.972					
Satd. Flow (prot)	1645	0	0	1727	0	0
Flt Permitted	0.972					
Satd. Flow (perm)	1645	0	0	1727	0	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	379			514	155	
Travel Time (s)	8.6			11.7	3.5	
Confl. Peds. (#/hr)	174		161			
Peak Hour Factor	0.86	0.86	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	11%	11%	6%	6%	2%	2%
Bus Blockages (#/hr)	4	0	0	0	0	0
Parking (#/hr)				10		
Adj. Flow (vph)	235	177	0	305	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	412	0	0	305	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	14			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	0.94	0.92	1.00	1.05	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Stop	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	42.0%	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)	33	799	91	306	963	104	97	144	153	53	70	29
Future Volume (vph)	33	799	91	306	963	104	97	144	153	53	70	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	13	12	12	12	13	10	16	16	12	16	16
Grade (%)		0%			7%			0%			0%	
Storage Length (ft)	107		0	315		0	120		0	100		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.97				0.91		0.97			0.99	
Frt		0.985				0.850		0.923			0.956	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1543	2965	0	1628	3256	1505	1532	1494	0	1612	1536	0
Flt Permitted	0.133			0.222			0.680			0.351		
Satd. Flow (perm)	216	2965	0	380	3256	1374	1096	1494	0	595	1536	0
Right Turn on Red			No			Yes			No			Yes
Satd. Flow (RTOR)						107					20	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		403			838			1248			514	
Travel Time (s)		9.2			19.0			28.4			11.7	
Confl. Peds. (#/hr)			156			50			43			20
Peak Hour Factor	0.92	0.92	0.92	0.97	0.97	0.97	0.84	0.84	0.84	0.82	0.82	0.82
Heavy Vehicles (%)	17%	17%	17%	7%	7%	7%	10%	10%	10%	12%	12%	12%
Bus Blockages (#/hr)	0	15	0	0	0	0	0	0	0	0	9	0
Parking (#/hr)								10			5	
Adj. Flow (vph)	36	868	99	315	993	107	115	171	182	65	85	35
Shared Lane Traffic (%)												
Lane Group Flow (vph)	36	967	0	315	993	107	115	353	0	65	120	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)		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	1.05	1.05	1.00	1.09	1.05	0.85	1.00	1.06	0.85
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	5	1		2	6			3			3	
Permitted Phases	1			6		6	3			3		
Detector Phase	5	1		2	6	6	3	3		3	3	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	11.0	41.0		11.0	46.0	46.0	40.0	40.0		40.0	40.0	
Total Split (s)	14.0	45.0		24.0	55.0	55.0	41.0	41.0		41.0	41.0	
Total Split (%)	12.7%	40.9%		21.8%	50.0%	50.0%	37.3%	37.3%		37.3%	37.3%	
Maximum Green (s)	8.0	39.0		18.0	49.0	49.0	35.0	35.0		35.0	35.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
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)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lead		Lag	Lag	Lag						
Lead-Lag Optimize?	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	Max	Ped		Max	C-Max	C-Max	Ped	Ped		Ped	Ped	
Walk Time (s)		10.0			20.0	20.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		25.0			20.0	20.0	27.0	27.0		27.0	27.0	
Pedestrian Calls (#/hr)		0			0	0	0	0		0	0	
Act Effct Green (s)	38.7	38.7		49.0	49.0	49.0	34.4	34.4		34.4	34.4	
Actuated g/C Ratio	0.35	0.35		0.45	0.45	0.45	0.31	0.31		0.31	0.31	
v/c Ratio	0.20	0.93		0.82	0.68	0.16	0.34	0.76		0.35	0.24	
Control Delay	23.0	42.0		30.8	11.8	1.6	32.3	45.8		35.6	24.7	
Queue Delay	0.0	40.3		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	23.0	82.3		30.8	11.8	1.6	32.3	45.8		35.6	24.7	
LOS	C	F		C	B	A	C	D		D	C	
Approach Delay		80.2			15.3			42.5			28.5	
Approach LOS		F			B			D			C	
Queue Length 50th (ft)	13	341		51	84	2	63	225		36	52	
Queue Length 95th (ft)	m19	m376		m#264	m86	m2	104	304		69	88	
Internal Link Dist (ft)		323			758			1168			434	
Turn Bay Length (ft)	107			315			120			100		
Base Capacity (vph)	180	1062		383	1450	671	348	475		189	502	
Starvation Cap Reductn	0	171		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	0.20	1.09		0.82	0.68	0.16	0.33	0.74		0.34	0.24	

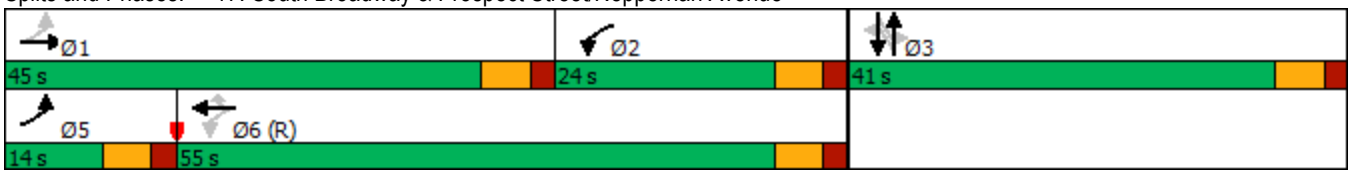
Intersection Summary	
Area Type:	Other
Cycle Length: 110	
Actuated Cycle Length: 110	
Offset: 15 (14%), Referenced to phase 6:WBTL, Start of Green	

Natural Cycle: 100	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.93	
Intersection Signal Delay: 41.4	Intersection LOS: D
Intersection Capacity Utilization 99.8%	ICU Level of Service F
Analysis Period (min) 15	

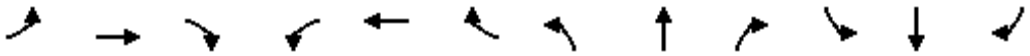
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

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

Splits and Phases: 17: South Broadway & Prospect Street/Nepperhan Avenue



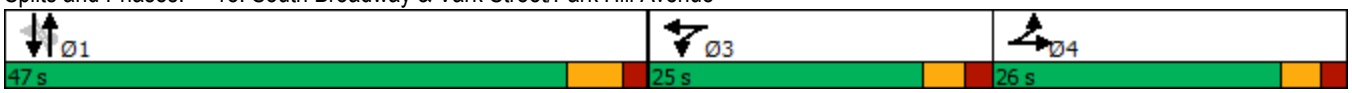
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	191	90	161	49	76	24	291	101	32	418	17
Future Volume (vph)	27	191	90	161	49	76	24	291	101	32	418	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	16	16	16	14	14	14	16	16	16	16	16	16
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.961			0.964			0.967			0.995	
Flt Protected		0.996			0.973			0.997			0.997	
Satd. Flow (prot)	0	2021	0	0	1864	0	0	1730	0	0	1780	0
Flt Permitted		0.996			0.973			0.953			0.947	
Satd. Flow (perm)	0	2021	0	0	1864	0	0	1654	0	0	1691	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		19			17			20			2	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1171			125			465			1248	
Travel Time (s)		26.6			2.8			10.6			28.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.82	0.82	0.82
Parking (#/hr)								10			10	
Adj. Flow (vph)	29	208	98	175	53	83	26	316	110	39	510	21
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	335	0	0	311	0	0	452	0	0	570	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	0.85	0.85	0.85	0.92	0.92	0.92	0.85	1.05	0.85	0.85	1.05	0.85
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA		Split	NA		Perm	NA		Perm	NA	
Protected Phases	4	4		3	3			1			1	
Permitted Phases							1			1		
Detector Phase	4	4		3	3		1	1		1	1	

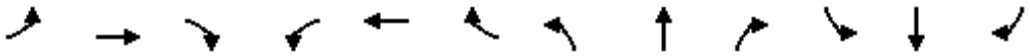


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	25.0	25.0		10.0	10.0		39.0	39.0		39.0	39.0	
Total Split (s)	26.0	26.0		25.0	25.0		47.0	47.0		47.0	47.0	
Total Split (%)	26.5%	26.5%		25.5%	25.5%		48.0%	48.0%		48.0%	48.0%	
Maximum Green (s)	21.0	21.0		20.0	20.0		41.0	41.0		41.0	41.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			6.0			6.0	
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	3.0	
Recall Mode	Ped	Ped		Max	Max		Ped	Ped		Ped	Ped	
Walk Time (s)	5.0	5.0					20.0	20.0		20.0	20.0	
Flash Dont Walk (s)	15.0	15.0					13.0	13.0		13.0	13.0	
Pedestrian Calls (#/hr)	0	0					0	0		0	0	
Act Effct Green (s)		20.6			20.0			37.8			37.8	
Actuated g/C Ratio		0.22			0.21			0.40			0.40	
v/c Ratio		0.74			0.76			0.67			0.84	
Control Delay		44.0			47.4			27.8			38.4	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		44.0			47.4			27.8			38.4	
LOS		D			D			C			D	
Approach Delay		44.0			47.4			27.8			38.4	
Approach LOS		D			D			C			D	
Queue Length 50th (ft)		186			175			209			302	
Queue Length 95th (ft)		#305			#307			320			385	
Internal Link Dist (ft)		1091			45			385			1168	
Turn Bay Length (ft)												
Base Capacity (vph)		465			408			730			736	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.72			0.76			0.62			0.77	

Intersection Summary			
Area Type:	Other		
Cycle Length: 98			
Actuated Cycle Length: 94.4			
Natural Cycle: 80			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.84			
Intersection Signal Delay: 38.3		Intersection LOS: D	
Intersection Capacity Utilization 79.7%		ICU Level of Service D	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

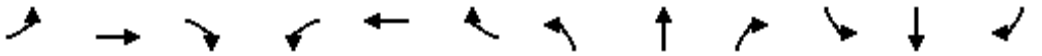
Splits and Phases: 18: South Broadway & Vark Street/Park Hill Avenue



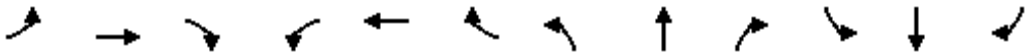


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	44	158	60	0	0	0	0	40	23	62	50	0
Future Volume (vph)	44	158	60	0	0	0	0	40	23	62	50	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	16	16	16	12	12	12	12	12	12	12	12	12
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		0.969						0.950				
Flt Protected		0.992									0.973	
Satd. Flow (prot)	0	2029	0	0	0	0	0	1770	0	0	1812	0
Flt Permitted		0.992									0.973	
Satd. Flow (perm)	0	2029	0	0	0	0	0	1770	0	0	1812	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		254			533			222			499	
Travel Time (s)		5.8			12.1			5.0			11.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	48	172	65	0	0	0	0	43	25	67	54	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	285	0	0	0	0	0	68	0	0	121	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	0.85	0.85	0.85	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
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 33.8%		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)	11	964	30	214	1289	246	15	117	368	0	0	0
Future Volume (vph)	11	964	30	214	1289	246	15	117	368	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	12	12	12	16	16	16	12	12	12
Grade (%)		7%			0%			0%			0%	
Storage Length (ft)	360		0	165		0	0		0	0		0
Storage Lanes	1		0	1		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.995				0.850		0.901				
Flt Protected	0.950			0.950				0.999				
Satd. Flow (prot)	1651	4883	0	1770	5085	1419	0	1615	0	0	0	0
Flt Permitted	0.105			0.173				0.999				
Satd. Flow (perm)	182	4883	0	322	5085	1419	0	1615	0	0	0	0
Right Turn on Red			Yes			No			No			Yes
Satd. Flow (RTOR)		5										
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		838			378			724			411	
Travel Time (s)		19.0			8.6			16.5			9.3	
Peak Hour Factor	0.92	0.92	0.92	0.97	0.97	0.97	0.92	0.92	0.92	0.92	0.92	0.92
Bus Blockages (#/hr)	0	0	0	0	0	26	0	0	0	0	0	0
Parking (#/hr)								10				
Adj. Flow (vph)	12	1048	33	221	1329	254	16	127	400	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	12	1081	0	221	1329	254	0	543	0	0	0	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)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.09	1.05	1.05	1.00	1.00	1.15	0.85	1.05	0.85	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2				
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru				
Leading Detector (ft)	20	100		20	100	20	20	100				
Trailing Detector (ft)	0	0		0	0	0	0	0				
Detector 1 Position(ft)	0	0		0	0	0	0	0				
Detector 1 Size(ft)	20	6		20	6	20	20	6				
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex				
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0				
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0				
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0				
Detector 2 Position(ft)		94			94			94				
Detector 2 Size(ft)		6			6			6				
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				
Detector 2 Channel												



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0				
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA				
Protected Phases	5	2		1	6			3				
Permitted Phases	2			6		6	3					
Detector Phase	5	2		1	6	6	3	3				
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0				
Minimum Split (s)	11.0	46.0		11.0	46.0	46.0	40.0	40.0				
Total Split (s)	21.0	48.0		21.0	48.0	48.0	41.0	41.0				
Total Split (%)	19.1%	43.6%		19.1%	43.6%	43.6%	37.3%	37.3%				
Maximum Green (s)	15.0	42.0		15.0	42.0	42.0	35.0	35.0				
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0				
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0				
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0				
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0		6.0				
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0				
Recall Mode	Max	Ped		Max	C-Max	C-Max	Ped	Ped				
Walk Time (s)		20.0			20.0	20.0	7.0	7.0				
Flash Dont Walk (s)		20.0			20.0	20.0	27.0	27.0				
Pedestrian Calls (#/hr)		0			0	0	0	0				
Act Effct Green (s)	57.0	42.0		57.0	42.0	42.0		35.0				
Actuated g/C Ratio	0.52	0.38		0.52	0.38	0.38		0.32				
v/c Ratio	0.04	0.58		0.61	0.68	0.47		1.06				
Control Delay	6.6	13.0		38.6	11.4	12.4		93.3				
Queue Delay	0.0	0.0		0.0	0.4	0.5		0.0				
Total Delay	6.6	13.0		38.6	11.8	12.9		93.3				
LOS	A	B		D	B	B		F				
Approach Delay		12.9			15.3			93.3				
Approach LOS		B			B			F				
Queue Length 50th (ft)	1	93		94	45	23		~421				
Queue Length 95th (ft)	m2	m120		m127	106	m59		#632				
Internal Link Dist (ft)		758			298			644			331	
Turn Bay Length (ft)	360			165								
Base Capacity (vph)	294	1867		364	1941	541		513				
Starvation Cap Reductn	0	0		0	206	79		0				
Spillback Cap Reductn	0	29		0	0	0		0				
Storage Cap Reductn	0	0		0	0	0		0				
Reduced v/c Ratio	0.04	0.59		0.61	0.77	0.55		1.06				

Intersection Summary	
Area Type:	Other
Cycle Length: 110	
Actuated Cycle Length: 110	
Offset: 10 (9%), Referenced to phase 6:WBTL, Start of Green	
Natural Cycle: 100	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.06	

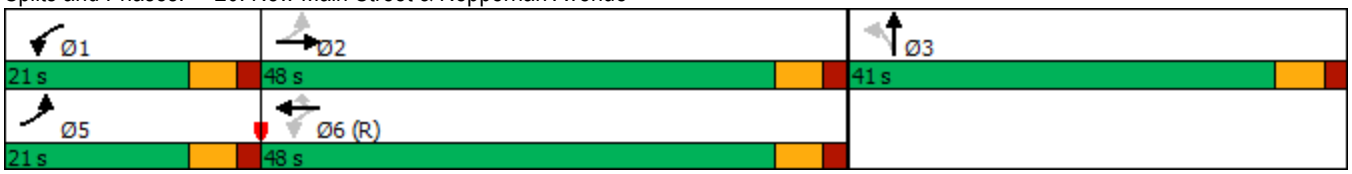
Intersection Signal Delay: 26.8	Intersection LOS: C
Intersection Capacity Utilization 75.8%	ICU Level of Service D
Analysis Period (min) 15	

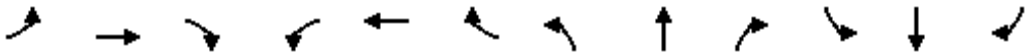
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

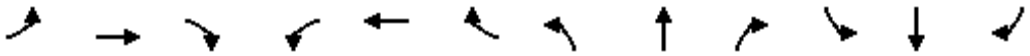
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 20: New Main Street & Nepperhan Avenue





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	83	443	111	189	370	123	72	180	99	0	0	0
Future Volume (vph)	83	443	111	189	370	123	72	180	99	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	9	9	15	10	11	11	10	10	10	12	12	12
Storage Length (ft)	75		100	70		0	0		100	0		0
Storage Lanes	1		1	1		0	0		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.962				0.850			
Flt Protected	0.950			0.950				0.986				
Satd. Flow (prot)	1533	1574	1676	1604	1683	0	0	1619	1312	0	0	0
Flt Permitted	0.284			0.332				0.986				
Satd. Flow (perm)	458	1574	1676	561	1683	0	0	1619	1312	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			84		22				97			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		436			2061			549			169	
Travel Time (s)		9.9			46.8			12.5			3.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	6%	6%	6%	5%	5%	5%	8%	8%	8%	2%	2%	2%
Bus Blockages (#/hr)	0	6	0	0	0	0	0	0	15	0	0	0
Adj. Flow (vph)	90	482	121	205	402	134	78	196	108	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	90	482	121	205	536	0	0	274	108	0	0	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)		10			10			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.14	1.18	0.88	1.09	1.04	1.04	1.09	1.09	1.18	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2	1			
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right			
Leading Detector (ft)	20	100	20	20	100		20	100	20			
Trailing Detector (ft)	0	0	0	0	0		0	0	0			
Detector 1 Position(ft)	0	0	0	0	0		0	0	0			
Detector 1 Size(ft)	20	6	20	20	6		20	6	20			
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0			
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0			
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0			
Detector 2 Position(ft)		94			94			94				
Detector 2 Size(ft)		6			6			6				
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Perm	NA	Prot			
Protected Phases	5	2		1	6			8	8			
Permitted Phases	2		2	6			8					
Detector Phase	5	2	2	1	6		8	8	8			
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0			
Minimum Split (s)	10.0	37.0	37.0	10.0	37.0		28.0	28.0	28.0			
Total Split (s)	17.0	51.0	51.0	17.0	51.0		32.0	32.0	32.0			
Total Split (%)	17.0%	51.0%	51.0%	17.0%	51.0%		32.0%	32.0%	32.0%			
Maximum Green (s)	12.0	46.0	46.0	12.0	46.0		27.0	27.0	27.0			
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0			
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0			
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0			0.0	0.0			
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0			5.0	5.0			
Lead/Lag	Lead	Lag	Lag	Lead	Lag							
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0			
Recall Mode	Max	Ped	Ped	Max	C-Max		Ped	Ped	Ped			
Walk Time (s)		20.0	20.0		20.0		10.0	10.0	10.0			
Flash Dont Walk (s)		12.0	12.0		12.0		13.0	13.0	13.0			
Pedestrian Calls (#/hr)		0	0		0		0	0	0			
Act Effct Green (s)	60.8	46.0	46.0	60.8	46.0			24.2	24.2			
Actuated g/C Ratio	0.61	0.46	0.46	0.61	0.46			0.24	0.24			
v/c Ratio	0.21	0.67	0.15	0.41	0.68			0.70	0.28			
Control Delay	6.8	21.4	6.0	6.5	10.3			44.9	9.6			
Queue Delay	0.0	0.0	0.0	0.0	0.0			0.0	0.0			
Total Delay	6.8	21.4	6.0	6.5	10.3			44.9	9.6			
LOS	A	C	A	A	B			D	A			
Approach Delay		16.8			9.2			34.9				
Approach LOS		B			A			C				
Queue Length 50th (ft)	14	162	9	15	57			163	6			
Queue Length 95th (ft)	m35	282	m35	m32	m92			242	47			
Internal Link Dist (ft)		356			1981			469			89	
Turn Bay Length (ft)	75		100	70					100			
Base Capacity (vph)	436	724	816	495	786			437	425			
Starvation Cap Reductn	0	0	0	0	0			0	0			
Spillback Cap Reductn	0	0	0	0	0			0	0			
Storage Cap Reductn	0	0	0	0	0			0	0			
Reduced v/c Ratio	0.21	0.67	0.15	0.41	0.68			0.63	0.25			

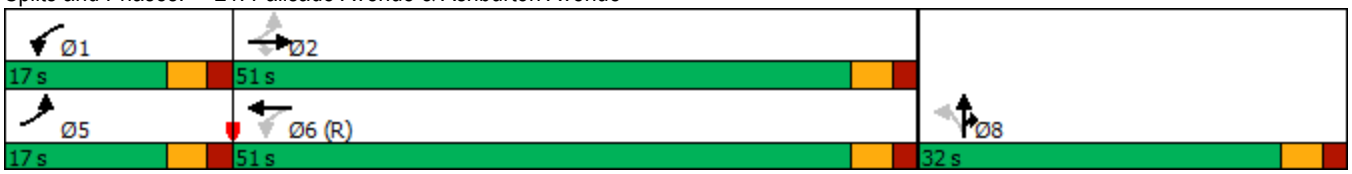
Intersection Summary	
Area Type:	Other
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 94 (94%), Referenced to phase 6:WBTL, Start of Green	
Natural Cycle: 75	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.70	
Intersection Signal Delay: 17.5	Intersection LOS: B

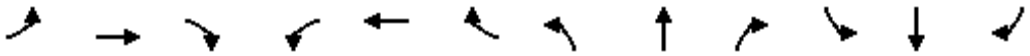
Intersection Capacity Utilization 59.7% ICU Level of Service B

Analysis Period (min) 15

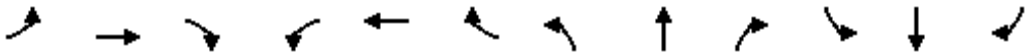
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 21: Palisade Avenue & Ashburton Avenue





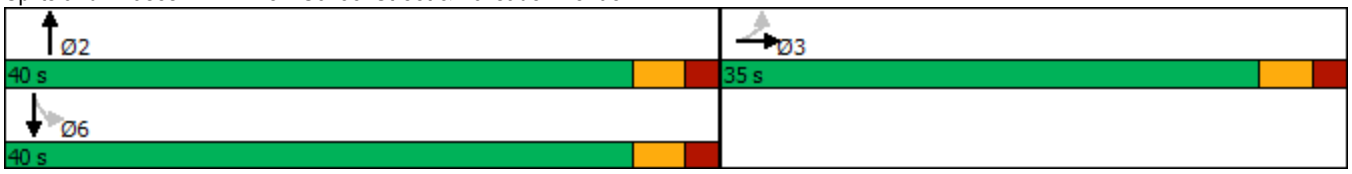
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	56	167	20	0	0	0	0	259	72	145	170	0
Future Volume (vph)	56	167	20	0	0	0	0	259	72	145	170	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	16	16	16	12	12	12	16	16	16	16	16	16
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		0.989						0.971				
Flt Protected		0.989									0.977	
Satd. Flow (prot)	0	1807	0	0	0	0	0	2050	0	0	2054	0
Flt Permitted		0.989									0.614	
Satd. Flow (perm)	0	1807	0	0	0	0	0	2050	0	0	1291	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7						25				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		533			736			222			1248	
Travel Time (s)		12.1			16.7			5.0			28.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	1	0
Parking (#/hr)		5										
Adj. Flow (vph)	61	182	22	0	0	0	0	282	78	158	185	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	265	0	0	0	0	0	360	0	0	343	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	0.85	1.01	0.85	1.00	1.00	1.00	0.85	0.85	0.85	0.85	0.85	0.85
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2						2		1	2	
Detector Template	Left	Thru						Thru		Left	Thru	
Leading Detector (ft)	20	100						100		20	100	
Trailing Detector (ft)	0	0						0		0	0	
Detector 1 Position(ft)	0	0						0		0	0	
Detector 1 Size(ft)	20	6						6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex						Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0						0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0						0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0						0.0		0.0	0.0	
Detector 2 Position(ft)		94						94			94	
Detector 2 Size(ft)		6						6			6	
Detector 2 Type		Cl+Ex						Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0						0.0			0.0	
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		3						2			6	
Permitted Phases	3									6		

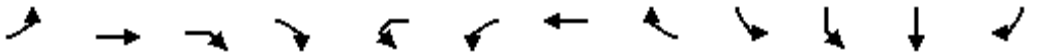


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	3	3						2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0						5.0		5.0	5.0	
Minimum Split (s)	34.0	34.0						39.0		10.0	10.0	
Total Split (s)	35.0	35.0						40.0		40.0	40.0	
Total Split (%)	46.7%	46.7%						53.3%		53.3%	53.3%	
Maximum Green (s)	30.0	30.0						35.0		35.0	35.0	
Yellow Time (s)	3.0	3.0						3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0						2.0		2.0	2.0	
Lost Time Adjust (s)		0.0						0.0			0.0	
Total Lost Time (s)		5.0						5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0						3.0		3.0	3.0	
Recall Mode	Ped	Ped						Ped		Max	Max	
Walk Time (s)	9.0	9.0						14.0				
Flash Dont Walk (s)	20.0	20.0						20.0				
Pedestrian Calls (#/hr)	0	0						0				
Act Effct Green (s)		29.0						35.0			35.0	
Actuated g/C Ratio		0.39						0.47			0.47	
v/c Ratio		0.37						0.37			0.56	
Control Delay		17.5						12.8			18.5	
Queue Delay		0.0						0.0			0.0	
Total Delay		17.5						12.8			18.5	
LOS		B						B			B	
Approach Delay		17.5						12.8			18.5	
Approach LOS		B						B			B	
Queue Length 50th (ft)		82						92			107	
Queue Length 95th (ft)		140						151			187	
Internal Link Dist (ft)		453			656			142			1168	
Turn Bay Length (ft)												
Base Capacity (vph)		736						982			610	
Starvation Cap Reductn		0						0			0	
Spillback Cap Reductn		0						0			0	
Storage Cap Reductn		0						0			0	
Reduced v/c Ratio		0.36						0.37			0.56	

Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 74			
Natural Cycle: 75			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.56			
Intersection Signal Delay: 16.1		Intersection LOS: B	
Intersection Capacity Utilization 60.6%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 22: New School Street & Palisade Avenue





Lane Group	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	SBL2	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	104	1180	37	11	22	25	1701	226	74	17	6	48
Future Volume (vph)	104	1180	37	11	22	25	1701	226	74	17	6	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	12	12	11	12	11	16	16	16	16
Grade (%)		0%					-5%				0%	
Storage Length (ft)	100		0			210		0		0		0
Storage Lanes	1		0			1		1		0		0
Taper Length (ft)	25					25				25		
Lane Util. Factor	1.00	0.91	0.91	0.91	0.91	1.00	0.91	1.00	1.00	1.00	1.00	1.00
Frt		0.994						0.850			0.955	
Flt Protected	0.950					0.950					0.970	
Satd. Flow (prot)	1711	5055	0	0	0	1753	5212	1569	0	0	1956	0
Flt Permitted	0.091					0.111					0.970	
Satd. Flow (perm)	164	5055	0	0	0	205	5212	1569	0	0	1956	0
Right Turn on Red				Yes				Yes				Yes
Satd. Flow (RTOR)		1						218			24	
Link Speed (mph)		30					30				30	
Link Distance (ft)		378					492				509	
Travel Time (s)		8.6					11.2				11.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.97	0.97	0.97	0.97	0.92	0.92	0.92	0.92
Adj. Flow (vph)	113	1283	40	12	23	26	1754	233	80	18	7	52
Shared Lane Traffic (%)												
Lane Group Flow (vph)	113	1335	0	0	0	49	1754	233	0	0	157	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Right	Left	Left	Left	Right	Left	Left	Left	Right
Median Width(ft)		12					12				0	
Link Offset(ft)		0					0				0	
Crosswalk Width(ft)		16					16				16	
Two way Left Turn Lane												
Headway Factor	1.04	1.00	1.00	1.00	0.97	1.01	0.97	1.01	0.85	0.85	0.85	0.85
Turning Speed (mph)	15		9	9	15	15		9	15	15		9
Number of Detectors	1	2			1	1	2	1	1	1	2	
Detector Template	Left	Thru			Left	Left	Thru	Right	Left	Left	Thru	
Leading Detector (ft)	20	100			20	20	100	20	20	20	100	
Trailing Detector (ft)	0	0			0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0			0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6			20	20	6	20	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94					94				94	
Detector 2 Size(ft)		6					6				6	
Detector 2 Type		Cl+Ex					Cl+Ex				Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0					0.0				0.0	
Turn Type	pm+pt	NA			pm+pt	pm+pt	NA	Perm	Perm	Perm	NA	

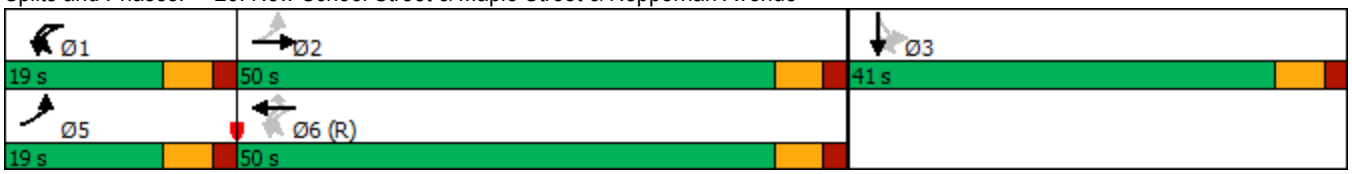
Lane Group	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	SBL2	SBL	SBT	SBR
Protected Phases	5	2			1	1	6				3	
Permitted Phases	2				6	6		6	3	3		
Detector Phase	5	2			1	1	6	6	3	3	3	
Switch Phase												
Minimum Initial (s)	5.0	5.0			5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	11.0	46.0			11.0	11.0	46.0	46.0	40.0	40.0	40.0	
Total Split (s)	19.0	50.0			19.0	19.0	50.0	50.0	41.0	41.0	41.0	
Total Split (%)	17.3%	45.5%			17.3%	17.3%	45.5%	45.5%	37.3%	37.3%	37.3%	
Maximum Green (s)	13.0	44.0			13.0	13.0	44.0	44.0	35.0	35.0	35.0	
Yellow Time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0	
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)	0.0	0.0				0.0	0.0	0.0			0.0	
Total Lost Time (s)	6.0	6.0				6.0	6.0	6.0			6.0	
Lead/Lag	Lead	Lag			Lead	Lead	Lag	Lag				
Lead-Lag Optimize?	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	Max	Ped			Max	Max	C-Max	C-Max	Ped	Ped	Ped	
Walk Time (s)		20.0					20.0	20.0	7.0	7.0	7.0	
Flash Dont Walk (s)		20.0					20.0	20.0	27.0	27.0	27.0	
Pedestrian Calls (#/hr)		0					0	0	0	0	0	
Act Effct Green (s)	58.0	44.0				58.0	44.0	44.0			34.0	
Actuated g/C Ratio	0.53	0.40				0.53	0.40	0.40			0.31	
v/c Ratio	0.40	0.66				0.16	0.84	0.31			0.25	
Control Delay	28.4	17.8				11.4	34.5	4.8			25.3	
Queue Delay	0.0	0.2				0.0	0.0	0.0			0.0	
Total Delay	28.4	18.0				11.4	34.5	4.8			25.3	
LOS	C	B				B	C	A			C	
Approach Delay		18.8					30.5				25.3	
Approach LOS		B					C				C	
Queue Length 50th (ft)	43	134				14	403	6			69	
Queue Length 95th (ft)	m88	m150				31	469	55			124	
Internal Link Dist (ft)		298					412				429	
Turn Bay Length (ft)	100					210						
Base Capacity (vph)	283	2022				305	2084	758			638	
Starvation Cap Reductn	0	133				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	0.40	0.71				0.16	0.84	0.31			0.25	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 10 (9%), Referenced to phase 6:WBTL, Start of Green			
Natural Cycle: 100			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.84			
Intersection Signal Delay: 25.6		Intersection LOS: C	
Intersection Capacity Utilization 61.9%		ICU Level of Service B	

Analysis Period (min) 15

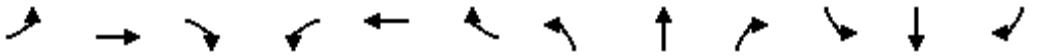
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 23: New School Street & Maple Street & Nepperhan Avenue

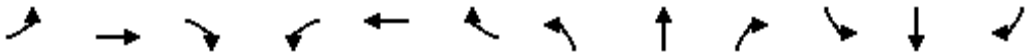


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1254	0	0	1925	49	161
Future Volume (vph)	1254	0	0	1925	49	161
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	15	15	15
Grade (%)	5%			-5%	0%	
Storage Length (ft)		0	120		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			25		25	
Lane Util. Factor	0.91	0.91	1.00	0.91	1.00	1.00
Frt					0.896	
Flt Protected					0.989	
Satd. Flow (prot)	4752	0	1909	5535	1816	0
Flt Permitted					0.989	
Satd. Flow (perm)	4752	0	1909	5535	1816	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	492			401	154	
Travel Time (s)	11.2			9.1	3.5	
Peak Hour Factor	0.92	0.92	0.97	0.97	0.92	0.92
Bus Blockages (#/hr)	0	0	0	26	0	0
Parking (#/hr)	5					
Adj. Flow (vph)	1363	0	0	1985	53	175
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1363	0	0	1985	228	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	15	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.09	1.03	0.97	0.89	0.88	0.88
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 56.5%		ICU Level of Service B	
Analysis Period (min) 15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	512	45	71	421	70	76	538	105	120	315	100
Future Volume (vph)	85	512	45	71	421	70	76	538	105	120	315	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	11	10	10	11	11	10	13	13	10	12	11
Storage Length (ft)	150		80	120		0	185		0	120		0
Storage Lanes	1		1	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850		0.979			0.976				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1504	1640	1346	1546	1650	0	1546	3340	0	1518	3252	1406
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1504	1640	1346	1546	1650	0	1546	3340	0	1518	3252	1406
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			98		9			23				109
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2061			390			1273			212	
Travel Time (s)		46.8			8.9			28.9			4.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	12%	12%	12%	9%	9%	9%	9%	9%	9%	11%	11%	11%
Adj. Flow (vph)	92	557	49	77	458	76	83	585	114	130	342	109
Shared Lane Traffic (%)												
Lane Group Flow (vph)	92	557	49	77	534	0	83	699	0	130	342	109
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)		10			10			10			10	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.09	1.04	1.09	1.09	1.04	1.04	1.09	0.96	0.96	1.09	1.00	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	NA		Prot	NA	pm+ov



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4	5	3	8		5	2		1	6	7
Permitted Phases			4									6
Detector Phase	7	4	5	3	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0		5.0	10.0		5.0	10.0	5.0
Minimum Split (s)	11.0	36.0	11.0	11.0	36.0		11.0	30.0		11.0	30.0	11.0
Total Split (s)	16.0	36.0	16.0	16.0	36.0		16.0	37.0		11.0	32.0	16.0
Total Split (%)	16.0%	36.0%	16.0%	16.0%	36.0%		16.0%	37.0%		11.0%	32.0%	16.0%
Maximum Green (s)	10.0	30.0	10.0	10.0	30.0		10.0	31.0		5.0	26.0	10.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
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)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0		6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lag		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	Ped	None	None	Ped		None	C-Max		None	Ped	None
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		23.0			23.0			17.0			17.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	9.3	33.5	48.5	8.9	30.7		9.0	31.0		5.0	29.4	44.8
Actuated g/C Ratio	0.09	0.34	0.48	0.09	0.31		0.09	0.31		0.05	0.29	0.45
v/c Ratio	0.66	1.01	0.07	0.56	1.04		0.60	0.67		1.73	0.36	0.16
Control Delay	77.3	63.8	0.8	59.2	86.4		61.4	32.6		410.1	30.5	4.2
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	77.3	63.8	0.8	59.2	86.4		61.4	32.6		410.1	30.5	4.2
LOS	E	E	A	E	F		E	C		F	C	A
Approach Delay		61.2			82.9			35.7			110.5	
Approach LOS		E			F			D			F	
Queue Length 50th (ft)	53	~419	1	47	~375		51	196		~123	94	0
Queue Length 95th (ft)	m90	#625	m3	96	#582		#102	260		#242	137	32
Internal Link Dist (ft)		1981			310			1193			132	
Turn Bay Length (ft)	150		80	120			185			120		
Base Capacity (vph)	150	549	715	154	512		154	1051		75	957	698
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.61	1.01	0.07	0.50	1.04		0.54	0.67		1.73	0.36	0.16

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 0 (0%), Referenced to phase 2:NBT, Start of Green, Master Intersection			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.73			
Intersection Signal Delay: 69.4		Intersection LOS: E	
Intersection Capacity Utilization 76.0%		ICU Level of Service D	

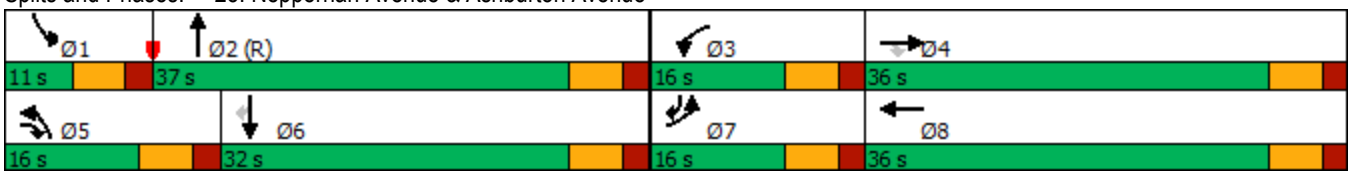
Analysis Period (min) 15

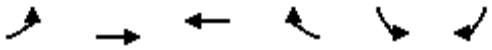
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

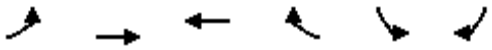
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 25: Nepperhan Avenue & Ashburton Avenue





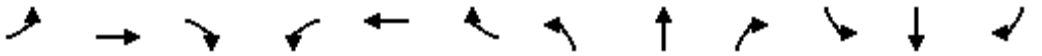
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	663	431	0	56	31
Future Volume (vph)	0	663	431	0	56	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	16	16
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Frt					0.952	
Flt Protected					0.969	
Satd. Flow (prot)	0	3245	3447	0	1947	0
Flt Permitted					0.969	
Satd. Flow (perm)	0	3245	3447	0	1947	0
Right Turn on Red				No		Yes
Satd. Flow (RTOR)					27	
Link Speed (mph)		30	30		30	
Link Distance (ft)		427	310		81	
Travel Time (s)		9.7	7.0		1.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Bus Blockages (#/hr)	0	11	13	0	0	0
Parking (#/hr)		5				
Adj. Flow (vph)	0	721	468	0	61	34
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	721	468	0	95	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		16	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.12	1.03	1.00	0.85	0.85
Turning Speed (mph)	15			9	15	9
Number of Detectors		2	2		1	
Detector Template		Thru	Thru		Left	
Leading Detector (ft)		100	100		20	
Trailing Detector (ft)		0	0		0	
Detector 1 Position(ft)		0	0		0	
Detector 1 Size(ft)		6	6		20	
Detector 1 Type		Cl+Ex	Cl+Ex		Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)		0.0	0.0		0.0	
Detector 1 Queue (s)		0.0	0.0		0.0	
Detector 1 Delay (s)		0.0	0.0		0.0	
Detector 2 Position(ft)		94	94			
Detector 2 Size(ft)		6	6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type		NA	NA		Prot	
Protected Phases		2	6		3	
Permitted Phases						



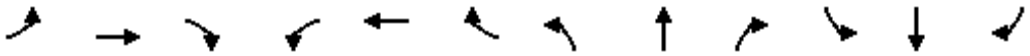
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Detector Phase		2	6		3	
Switch Phase						
Minimum Initial (s)		5.0	5.0		5.0	
Minimum Split (s)		10.0	10.0		35.0	
Total Split (s)		35.0	35.0		35.0	
Total Split (%)		33.3%	33.3%		33.3%	
Maximum Green (s)		30.0	30.0		30.0	
Yellow Time (s)		3.0	3.0		3.0	
All-Red Time (s)		2.0	2.0		2.0	
Lost Time Adjust (s)		0.0	0.0		0.0	
Total Lost Time (s)		5.0	5.0		5.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)		3.0	3.0		3.0	
Recall Mode		Max	Max		None	
Walk Time (s)					7.0	
Flash Dont Walk (s)					23.0	
Pedestrian Calls (#/hr)					5	
Act Effct Green (s)		30.5	30.5		11.3	
Actuated g/C Ratio		0.36	0.36		0.13	
v/c Ratio		0.62	0.38		0.34	
Control Delay		27.4	23.4		27.7	
Queue Delay		0.0	0.0		0.0	
Total Delay		27.4	23.4		27.7	
LOS		C	C		C	
Approach Delay		27.4	23.4		27.7	
Approach LOS		C	C		C	
Queue Length 50th (ft)		160	93		34	
Queue Length 95th (ft)		305	186		74	
Internal Link Dist (ft)		347	230		1	
Turn Bay Length (ft)						
Base Capacity (vph)		1164	1237		716	
Starvation Cap Reductn		0	0		0	
Spillback Cap Reductn		0	0		0	
Storage Cap Reductn		0	0		0	
Reduced v/c Ratio		0.62	0.38		0.13	

Intersection Summary			
Area Type:	Other		
Cycle Length: 105			
Actuated Cycle Length: 85			
Natural Cycle: 75			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay: 25.9		Intersection LOS: C	
Intersection Capacity Utilization 31.7%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 26: Nepperhan Avenue & Copcutt Lane



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	224	142	18	416	0	133	0	1282	133	122	1491	0
Future Volume (vph)	224	142	18	416	0	133	0	1282	133	122	1491	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	16	16	16	12	12	12	11	12	12
Grade (%)		0%			0%			5%			0%	
Storage Length (ft)	0		0	0		0	0		0	140		0
Storage Lanes	1		0	0		0	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	1.00
Frt		0.983			0.967			0.986				
Flt Protected	0.950				0.964					0.950		
Satd. Flow (prot)	1454	1770	0	0	1722	0	0	4889	0	1711	5085	0
Flt Permitted	0.655				0.632					0.085		
Satd. Flow (perm)	1003	1770	0	0	1129	0	0	4889	0	153	5085	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6			89			18				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		736			401			401			720	
Travel Time (s)		16.7			9.1			9.1			16.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.97	0.97	0.97
Parking (#/hr)	10				5							
Adj. Flow (vph)	243	154	20	452	0	145	0	1393	145	126	1537	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	243	174	0	0	597	0	0	1538	0	126	1537	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)		11			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.28	1.04	1.04	0.85	1.01	0.85	1.03	1.03	1.03	1.04	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2			2		1	2	
Detector Template	Left	Thru		Left	Thru			Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100			100		20	100	
Trailing Detector (ft)	0	0		0	0			0		0	0	
Detector 1 Position(ft)	0	0		0	0			0		0	0	
Detector 1 Size(ft)	20	6		20	6			6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA			NA		pm+pt	NA	
Protected Phases		3			3			2		1	6	
Permitted Phases	3			3						6		
Detector Phase	3	3		3	3			2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0			5.0		5.0	5.0	
Minimum Split (s)	40.0	40.0		40.0	40.0			39.0		11.0	39.0	
Total Split (s)	41.0	41.0		41.0	41.0			48.0		21.0	69.0	
Total Split (%)	37.3%	37.3%		37.3%	37.3%			43.6%		19.1%	62.7%	
Maximum Green (s)	35.0	35.0		35.0	35.0			42.0		15.0	63.0	
Yellow Time (s)	4.0	4.0		4.0	4.0			4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0			2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0			0.0			0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0			6.0			6.0		6.0	6.0	
Lead/Lag								Lag		Lead		
Lead-Lag Optimize?								Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Recall Mode	Ped	Ped		Ped	Ped			Ped		Max	Ped	
Walk Time (s)	7.0	7.0		7.0	7.0			20.0			20.0	
Flash Dont Walk (s)	27.0	27.0		27.0	27.0			13.0			13.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	35.0	35.0			35.0			41.1		62.1	62.1	
Actuated g/C Ratio	0.32	0.32			0.32			0.38		0.57	0.57	
v/c Ratio	0.75	0.30			1.41			0.83		0.42	0.53	
Control Delay	50.2	29.0			227.2			35.2		18.6	15.3	
Queue Delay	0.0	0.0			0.0			0.0		0.0	0.0	
Total Delay	50.2	29.0			227.2			35.2		18.6	15.3	
LOS	D	C			F			D		B	B	
Approach Delay		41.3			227.2			35.2			15.6	
Approach LOS		D			F			D			B	
Queue Length 50th (ft)	154	89			~529			349		39	229	
Queue Length 95th (ft)	#282	148			#749			412		89	270	
Internal Link Dist (ft)		656			321			321			640	
Turn Bay Length (ft)										140		
Base Capacity (vph)	322	572			422			1894		301	2938	
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	0.75	0.30			1.41			0.81		0.42	0.52	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 109.1			
Natural Cycle: 90			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 1.41			
Intersection Signal Delay: 55.3		Intersection LOS: E	
Intersection Capacity Utilization 98.1%		ICU Level of Service F	

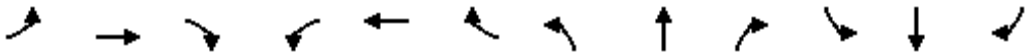
Analysis Period (min) 15

~ 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: 27: Nepperhan Avenue & Elm Street

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	91	856	29	83	1053	62	33	311	230	50	266	65
Future Volume (vph)	91	856	29	83	1053	62	33	311	230	50	266	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	13	13	10	13	13	14	14	14	12	12	12
Storage Length (ft)	105		0	130		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.995			0.992			0.946			0.977	
Flt Protected	0.950			0.950				0.997			0.994	
Satd. Flow (prot)	1652	3639	0	1652	3541	0	0	1874	0	0	1532	0
Flt Permitted	0.144			0.225				0.901			0.554	
Satd. Flow (perm)	250	3639	0	391	3541	0	0	1694	0	0	854	0
Right Turn on Red			No			Yes			Yes			No
Satd. Flow (RTOR)					7			30				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1431			1109			369			272	
Travel Time (s)		32.5			25.2			8.4			6.2	
Peak Hour Factor	0.92	0.92	0.92	0.97	0.97	0.97	0.92	0.92	0.92	0.92	0.92	0.92
Bus Blockages (#/hr)	0	0	0	0	12	0	0	0	0	0	8	0
Parking (#/hr)											5	
Adj. Flow (vph)	99	930	32	86	1086	64	36	338	250	54	289	71
Shared Lane Traffic (%)												
Lane Group Flow (vph)	99	962	0	86	1150	0	0	624	0	0	414	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)		10			10			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.09	0.96	0.96	1.09	0.99	0.96	0.92	0.92	0.92	1.00	1.23	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			3			3	
Permitted Phases	2			6			3			3		
Detector Phase	5	2		1	6		3	3		3	3	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	11.0	16.0		11.0	28.0		35.0	35.0		35.0	35.0	
Total Split (s)	16.0	59.0		16.0	59.0		35.0	35.0		35.0	35.0	
Total Split (%)	14.5%	53.6%		14.5%	53.6%		31.8%	31.8%		31.8%	31.8%	
Maximum Green (s)	10.0	53.0		10.0	53.0		29.0	29.0		29.0	29.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0			6.0			6.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	C-Max		None	Ped		Ped	Ped		Ped	Ped	
Walk Time (s)					10.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)					12.0		22.0	22.0		22.0	22.0	
Pedestrian Calls (#/hr)					0		0	0		0	0	
Act Effct Green (s)	64.5	57.6		62.7	54.9			29.0			29.0	
Actuated g/C Ratio	0.59	0.52		0.57	0.50			0.26			0.26	
v/c Ratio	0.40	0.50		0.28	0.65			1.33			1.84	
Control Delay	13.3	18.9		18.0	38.5			196.7			421.6	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	13.3	18.9		18.0	38.5			196.7			421.6	
LOS	B	B		B	D			F			F	
Approach Delay		18.4			37.0			196.7			421.6	
Approach LOS		B			D			F			F	
Queue Length 50th (ft)	26	233		46	383			~561			~444	
Queue Length 95th (ft)	47	303		m84	453			#785			#637	
Internal Link Dist (ft)		1351			1029			289			192	
Turn Bay Length (ft)	105			130								
Base Capacity (vph)	276	1906		345	1772			468			225	
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	0.36	0.50		0.25	0.65			1.33			1.84	

Intersection Summary	
Area Type:	Other
Cycle Length: 110	
Actuated Cycle Length: 110	
Offset: 69 (63%), Referenced to phase 2:EBTL, Start of Green	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.84	
Intersection Signal Delay: 108.7	Intersection LOS: F

Intersection Capacity Utilization 87.6% ICU Level of Service E

Analysis Period (min) 15

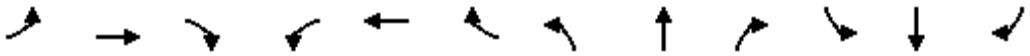
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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: 28: Walnut Street & Yonkers Avenue

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	1124	5	93	1180	17	18	58	266	0	0	0
Future Volume (vph)	7	1124	5	93	1180	17	18	58	266	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	11	11	10	12	12	15	15	15	12	12	12
Storage Length (ft)	85		0	85		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999			0.998			0.895				
Flt Protected	0.950			0.950				0.997				
Satd. Flow (prot)	1652	3418	0	1652	3447	0	0	1828	0	0	0	0
Flt Permitted	0.227			0.096				0.997				
Satd. Flow (perm)	395	3418	0	167	3447	0	0	1828	0	0	0	0
Right Turn on Red			Yes			Yes			No			Yes
Satd. Flow (RTOR)					3							
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1109			370			410			164	
Travel Time (s)		25.2			8.4			9.3			3.7	
Peak Hour Factor	0.92	0.92	0.92	0.97	0.97	0.97	0.92	0.92	0.92	0.92	0.92	0.92
Bus Blockages (#/hr)	0	0	0	0	12	0	0	0	0	0	0	0
Adj. Flow (vph)	8	1222	5	96	1216	18	20	63	289	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	8	1227	0	96	1234	0	0	372	0	0	0	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)		10			10			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.09	1.04	1.04	1.09	1.03	1.00	0.88	0.88	0.88	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2				
Detector Template	Left	Thru		Left	Thru		Left	Thru				
Leading Detector (ft)	20	100		20	100		20	100				
Trailing Detector (ft)	0	0		0	0		0	0				
Detector 1 Position(ft)	0	0		0	0		0	0				
Detector 1 Size(ft)	20	6		20	6		20	6				
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex				
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0				
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0				
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0				
Detector 2 Position(ft)		94			94			94				
Detector 2 Size(ft)		6			6			6				
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				
Turn Type	Perm	NA		pm+pt	NA		Perm	NA				



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		2		1	6			3				
Permitted Phases	2			6			3					
Detector Phase	2	2		1	6		3	3				
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		10.0	10.0				
Minimum Split (s)	11.0	11.0		11.0	11.0		32.0	32.0				
Total Split (s)	57.0	57.0		21.0	78.0		32.0	32.0				
Total Split (%)	51.8%	51.8%		19.1%	70.9%		29.1%	29.1%				
Maximum Green (s)	51.0	51.0		15.0	72.0		26.0	26.0				
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0				
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0				
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0				
Total Lost Time (s)	6.0	6.0		6.0	6.0			6.0				
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	Yes	Yes		Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0				
Recall Mode	C-Max	C-Max		Max	Max		Ped	Ped				
Walk Time (s)							7.0	7.0				
Flash Dont Walk (s)							19.0	19.0				
Pedestrian Calls (#/hr)							0	0				
Act Effct Green (s)	51.0	51.0		72.0	72.0			26.0				
Actuated g/C Ratio	0.46	0.46		0.65	0.65			0.24				
v/c Ratio	0.04	0.77		0.31	0.55			0.86				
Control Delay	13.0	27.6		22.7	6.3			60.8				
Queue Delay	0.0	0.0		0.0	0.1			0.0				
Total Delay	13.0	27.6		22.7	6.4			60.8				
LOS	B	C		C	A			E				
Approach Delay		27.5			7.6			60.8				
Approach LOS		C			A			E				
Queue Length 50th (ft)	2	437		13	80			253				
Queue Length 95th (ft)	m3	m460		m44	m78			#417				
Internal Link Dist (ft)		1029			290			330			84	
Turn Bay Length (ft)	85			85								
Base Capacity (vph)	183	1584		311	2257			432				
Starvation Cap Reductn	0	0		0	146			0				
Spillback Cap Reductn	0	0		0	0			0				
Storage Cap Reductn	0	0		0	0			0				
Reduced v/c Ratio	0.04	0.77		0.31	0.58			0.86				

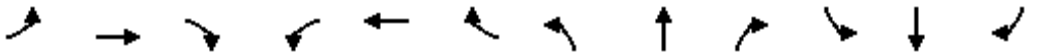
Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 103 (94%), Referenced to phase 2:EBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.86			
Intersection Signal Delay: 22.7		Intersection LOS: C	
Intersection Capacity Utilization 72.8%		ICU Level of Service C	

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

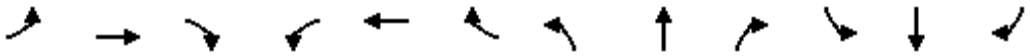
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 29: Prescott Street & Yonkers Avenue



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1368	22	4	1254	586	15	0	6	892	0	21
Future Volume (vph)	0	1368	22	4	1254	586	15	0	6	892	0	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	12	12	14	12	12	12	11	11	12
Storage Length (ft)	0		0	0		250	0		0	0		0
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.998				0.850		0.865			0.993	
Flt Protected							0.950			0.950	0.954	
Satd. Flow (prot)	0	3332	0	0	3539	1689	1770	0	0	1625	1601	0
Flt Permitted					0.951		0.950			0.950	0.954	
Satd. Flow (perm)	0	3332	0	0	3366	1689	1770	0	0	1625	1601	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2				604		169			109	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		370			325			129			377	
Travel Time (s)		8.4			7.4			2.9			8.6	
Peak Hour Factor	0.92	0.92	0.92	0.97	0.97	0.97	0.92	0.92	0.92	0.92	0.92	0.92
Bus Blockages (#/hr)	0	12	0	0	0	0	0	0	0	0	3	0
Adj. Flow (vph)	0	1487	24	4	1293	604	16	0	7	970	0	23
Shared Lane Traffic (%)										49%		
Lane Group Flow (vph)	0	1511	0	0	1297	604	16	7	0	495	498	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)		10			10			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.08	1.04	1.00	1.00	0.92	1.00	1.00	1.00	1.04	1.06	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		2		1	2	1	1			1	2	
Detector Template		Thru		Left	Thru	Right	Left			Left	Thru	
Leading Detector (ft)		100		20	100	20	20			20	100	
Trailing Detector (ft)		0		0	0	0	0			0	0	
Detector 1 Position(ft)		0		0	0	0	0			0	0	
Detector 1 Size(ft)		6		20	6	20	20			20	6	
Detector 1 Type		Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)		0.0		0.0	0.0	0.0	0.0			0.0	0.0	
Detector 1 Queue (s)		0.0		0.0	0.0	0.0	0.0			0.0	0.0	
Detector 1 Delay (s)		0.0		0.0	0.0	0.0	0.0			0.0	0.0	
Detector 2 Position(ft)		94			94						94	
Detector 2 Size(ft)		6			6						6	
Detector 2 Type		Cl+Ex			Cl+Ex						Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0						0.0	
Turn Type		NA		Perm	NA	custom	Prot			Split	NA	

Lane Group	Ø1	Ø2
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Lane Width (ft)		
Storage Length (ft)		
Storage Lanes		
Taper Length (ft)		
Lane Util. Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Peak Hour Factor		
Bus Blockages (#/hr)		
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)		
Number of Detectors		
Detector Template		
Leading Detector (ft)		
Trailing Detector (ft)		
Detector 1 Position(ft)		
Detector 1 Size(ft)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Detector 2 Position(ft)		
Detector 2 Size(ft)		
Detector 2 Type		
Detector 2 Channel		
Detector 2 Extend (s)		
Turn Type		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		1 2			1 2	2 3 4	4			3	3	
Permitted Phases				1 2								
Detector Phase		1 2		1 2	1 2	2 3 4	4			3	3	
Switch Phase												
Minimum Initial (s)							5.0			5.0	5.0	
Minimum Split (s)							10.0			32.0	32.0	
Total Split (s)							10.0			36.0	36.0	
Total Split (%)							9.1%			32.7%	32.7%	
Maximum Green (s)							5.0			30.0	30.0	
Yellow Time (s)							3.0			4.0	4.0	
All-Red Time (s)							2.0			2.0	2.0	
Lost Time Adjust (s)							0.0			0.0	0.0	
Total Lost Time (s)							5.0			6.0	6.0	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)							3.0			3.0	3.0	
Recall Mode							None			None	None	
Walk Time (s)										7.0	7.0	
Flash Dont Walk (s)										19.0	19.0	
Pedestrian Calls (#/hr)										0	0	
Act Effct Green (s)		61.0			61.0	87.0	5.0	0.0		30.0	30.0	
Actuated g/C Ratio		0.55			0.55	0.79	0.05	0.00		0.27	0.27	
v/c Ratio		0.82			0.70	0.41	0.20	0.04		1.12	0.97	
Control Delay		10.1			27.9	0.6	56.6	0.0		116.8	64.1	
Queue Delay		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		10.1			27.9	0.6	56.6	0.0		116.8	64.1	
LOS		B			C	A	E	A		F	E	
Approach Delay		10.1			19.2			39.4			90.4	
Approach LOS		B			B			D			F	
Queue Length 50th (ft)		125			361	0	11	0		~424	298	
Queue Length 95th (ft)		188			445	m0	35	0		#640	#527	
Internal Link Dist (ft)		290			245			49			297	
Turn Bay Length (ft)						250						
Base Capacity (vph)		1848			1866	1462	80	169		443	515	
Starvation Cap Reductn		0			0	0	0	0		0	0	
Spillback Cap Reductn		0			0	0	0	0		0	0	
Storage Cap Reductn		0			0	0	0	0		0	0	
Reduced v/c Ratio		0.82			0.70	0.41	0.20	0.04		1.12	0.97	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 0 (0%), Referenced to phase 2:EBWB, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.12			
Intersection Signal Delay: 32.2		Intersection LOS: C	
Intersection Capacity Utilization Err%		ICU Level of Service H	

Lane Group	Ø1	Ø2
Protected Phases	1	2
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	5.0	5.0
Minimum Split (s)	17.0	11.0
Total Split (s)	17.0	47.0
Total Split (%)	15%	43%
Maximum Green (s)	14.0	41.0
Yellow Time (s)	2.0	4.0
All-Red Time (s)	1.0	2.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes
Vehicle Extension (s)	3.0	3.0
Recall Mode	None	C-Max
Walk Time (s)	5.0	
Flash Dont Walk (s)	9.0	
Pedestrian Calls (#/hr)	0	
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		

Intersection Summary

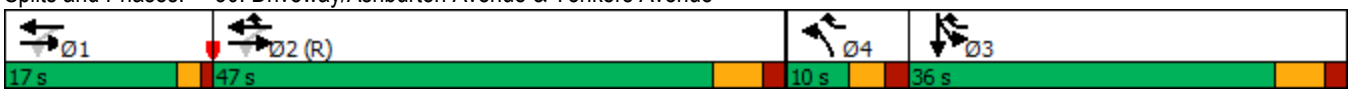
Analysis Period (min) 15

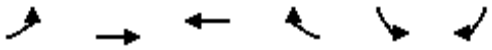
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

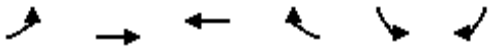
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 30: Driveway/Ashburton Avenue & Yonkers Avenue





Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	408	1395	1286	222	78	342
Future Volume (vph)	408	1395	1286	222	78	342
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	11	16	11
Storage Length (ft)	180			0	0	0
Storage Lanes	1			1	1	1
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1805	3539	3421	1561	2046	1561
Flt Permitted	0.076				0.950	
Satd. Flow (perm)	144	3539	3421	1561	2046	1561
Right Turn on Red				No		Yes
Satd. Flow (RTOR)						24
Link Speed (mph)		30	30		30	
Link Distance (ft)		399	747		226	
Travel Time (s)		9.1	17.0		5.1	
Peak Hour Factor	0.92	0.92	0.97	0.97	0.92	0.92
Heavy Vehicles (%)	0%	2%	2%	0%	0%	0%
Adj. Flow (vph)	443	1516	1326	229	85	372
Shared Lane Traffic (%)						
Lane Group Flow (vph)	443	1516	1326	229	85	372
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		16	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.04	1.04	0.85	1.04
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	2	2	1	1	1
Detector Template	Left	Thru	Thru	Right	Left	Right
Leading Detector (ft)	20	100	100	20	20	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	6	20	20	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94	94			
Detector 2 Size(ft)		6	6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type	pm+pt	NA	NA	Free	Prot	pt+ov

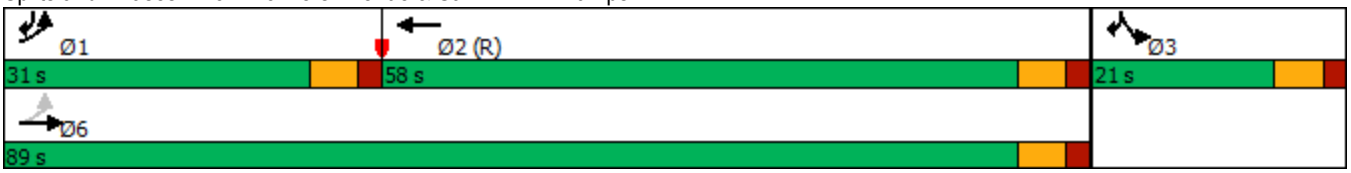


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Protected Phases	1	6	2		3	1 3
Permitted Phases	6			Free		
Detector Phase	1	6	2		3	1 3
Switch Phase						
Minimum Initial (s)	5.0	10.0	10.0		5.0	
Minimum Split (s)	11.0	16.0	16.0		11.0	
Total Split (s)	31.0	89.0	58.0		21.0	
Total Split (%)	28.2%	80.9%	52.7%		19.1%	
Maximum Green (s)	25.0	83.0	52.0		15.0	
Yellow Time (s)	4.0	4.0	4.0		4.0	
All-Red Time (s)	2.0	2.0	2.0		2.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	
Total Lost Time (s)	6.0	6.0	6.0		6.0	
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Recall Mode	Max	Max	C-Max		Max	
Act Effct Green (s)	83.0	83.0	52.0	110.0	15.0	46.0
Actuated g/C Ratio	0.75	0.75	0.47	1.00	0.14	0.42
v/c Ratio	0.91	0.57	0.82	0.15	0.30	0.56
Control Delay	43.4	5.3	42.2	0.2	46.2	26.5
Queue Delay	0.0	0.3	0.0	0.0	0.0	0.0
Total Delay	43.4	5.6	42.2	0.2	46.2	26.5
LOS	D	A	D	A	D	C
Approach Delay		14.2	36.0		30.2	
Approach LOS		B	D		C	
Queue Length 50th (ft)	248	223	513	0	55	183
Queue Length 95th (ft)	m#301	m237	182	0	104	280
Internal Link Dist (ft)		319	667		146	
Turn Bay Length (ft)	180					
Base Capacity (vph)	486	2670	1617	1561	279	666
Starvation Cap Reductn	0	506	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	0.91	0.70	0.82	0.15	0.30	0.56

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 13 (12%), Referenced to phase 2:WBT, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.91			
Intersection Signal Delay: 24.6		Intersection LOS: C	
Intersection Capacity Utilization 77.5%		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: 31: Yonkers Avenue & Saw Mill NB Ramps

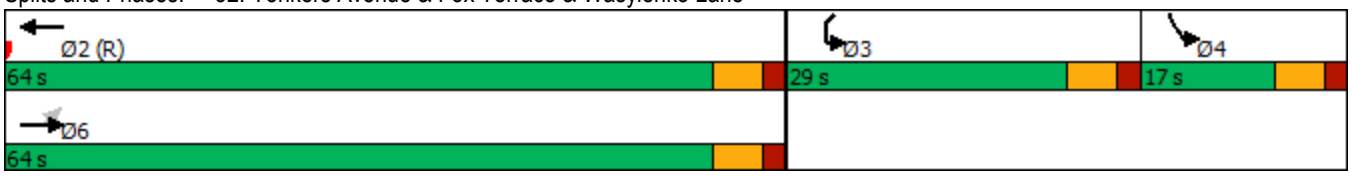


Lane Group	EBL	EBT	WBT	WBR	WBR2	SBL	SBR	SWL	SWR
Lane Configurations									
Traffic Volume (vph)	6	1467	1506	19	4	0	1	2	1
Future Volume (vph)	6	1467	1506	19	4	0	1	2	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	14	13	13	12	16	16	11	11
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00
Frt			0.998			0.865		0.955	
Flt Protected								0.968	
Satd. Flow (prot)	0	3685	3650	0	0	1826	0	1665	0
Flt Permitted		0.946						0.968	
Satd. Flow (perm)	0	3486	3650	0	0	1826	0	1665	0
Right Turn on Red					Yes		Yes		
Satd. Flow (RTOR)						322			
Link Speed (mph)		30	30			30		30	
Link Distance (ft)		747	1480			229		264	
Travel Time (s)		17.0	33.6			5.2		6.0	
Peak Hour Factor	0.92	0.92	0.97	0.97	0.92	0.92	0.92	0.92	0.92
Bus Blockages (#/hr)	0	12	0	0	0	0	0	0	0
Adj. Flow (vph)	7	1595	1553	20	4	0	1	2	1
Shared Lane Traffic (%)									
Lane Group Flow (vph)	0	1602	1577	0	0	1	0	3	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Right	Left	Right	Left	Right
Median Width(ft)		0	0			16		11	
Link Offset(ft)		0	0			0		0	
Crosswalk Width(ft)		16	16			16		16	
Two way Left Turn Lane									
Headway Factor	1.04	0.95	0.96	0.96	1.00	0.85	0.85	1.04	1.04
Turning Speed (mph)	15			9	9	15	9	15	9
Number of Detectors	1	2	2			1		1	
Detector Template	Left	Thru	Thru			Left		Left	
Leading Detector (ft)	20	100	100			20		20	
Trailing Detector (ft)	0	0	0			0		0	
Detector 1 Position(ft)	0	0	0			0		0	
Detector 1 Size(ft)	20	6	6			20		20	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	
Detector 1 Channel									
Detector 1 Extend (s)	0.0	0.0	0.0			0.0		0.0	
Detector 1 Queue (s)	0.0	0.0	0.0			0.0		0.0	
Detector 1 Delay (s)	0.0	0.0	0.0			0.0		0.0	
Detector 2 Position(ft)		94	94						
Detector 2 Size(ft)		6	6						
Detector 2 Type		Cl+Ex	Cl+Ex						
Detector 2 Channel									
Detector 2 Extend (s)		0.0	0.0						
Turn Type	Perm	NA	NA			Prot		Prot	
Protected Phases		6	2			4		3	
Permitted Phases	6								
Detector Phase	6	6	2			4		3	

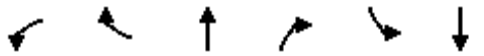
Lane Group	EBL	EBT	WBT	WBR	WBR2	SBL	SBR	SWL	SWR
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0			5.0		5.0	
Minimum Split (s)	16.0	16.0	16.0			11.0		27.0	
Total Split (s)	64.0	64.0	64.0			17.0		29.0	
Total Split (%)	58.2%	58.2%	58.2%			15.5%		26.4%	
Maximum Green (s)	58.0	58.0	58.0			11.0		23.0	
Yellow Time (s)	4.0	4.0	4.0			4.0		4.0	
All-Red Time (s)	2.0	2.0	2.0			2.0		2.0	
Lost Time Adjust (s)		0.0	0.0			0.0		0.0	
Total Lost Time (s)		6.0	6.0			6.0		6.0	
Lead/Lag						Lag		Lead	
Lead-Lag Optimize?						Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0			3.0		3.0	
Recall Mode	Max	Max	C-Max			None		None	
Walk Time (s)								7.0	
Flash Dont Walk (s)								14.0	
Pedestrian Calls (#/hr)								5	
Act Effct Green (s)		101.1	101.1			5.5		8.7	
Actuated g/C Ratio		0.92	0.92			0.05		0.08	
v/c Ratio		0.50	0.47			0.00		0.02	
Control Delay		3.5	7.4			0.0		42.0	
Queue Delay		0.0	0.0			0.0		0.0	
Total Delay		3.5	7.4			0.0		42.0	
LOS		A	A			A		D	
Approach Delay		3.5	7.4					42.0	
Approach LOS		A	A					D	
Queue Length 50th (ft)		2	8			0		2	
Queue Length 95th (ft)		465	477			0		10	
Internal Link Dist (ft)		667	1400			149		184	
Turn Bay Length (ft)									
Base Capacity (vph)		3204	3355			472		348	
Starvation Cap Reductn		0	0			0		0	
Spillback Cap Reductn		0	0			0		0	
Storage Cap Reductn		0	0			0		0	
Reduced v/c Ratio		0.50	0.47			0.00		0.01	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 13 (12%), Referenced to phase 2:WBT, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.50			
Intersection Signal Delay: 5.4		Intersection LOS: A	
Intersection Capacity Utilization 68.1%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 32: Yonkers Avenue & Fox Terrace & Wasylenko Lane



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	214	461	1068	115	324	1145
Future Volume (vph)	214	461	1068	115	324	1145
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	9	11
Storage Length (ft)	0	0		100	180	
Storage Lanes	2	1		1	1	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.91	0.95	1.00	1.00	0.95
Frt	0.922	0.850		0.850		
Flt Protected	0.976				0.950	
Satd. Flow (prot)	3252	1424	3539	1583	1593	3367
Flt Permitted	0.976				0.097	
Satd. Flow (perm)	3252	1424	3539	1583	163	3367
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	251	250		56		
Link Speed (mph)	30		30			30
Link Distance (ft)	520		563			1480
Travel Time (s)	11.8		12.8			33.6
Peak Hour Factor	0.92	0.92	0.97	0.97	0.92	0.92
Bus Blockages (#/hr)	0	3	0	0	0	8
Adj. Flow (vph)	233	501	1101	119	352	1245
Shared Lane Traffic (%)		50%				
Lane Group Flow (vph)	484	250	1101	119	352	1245
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	24		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.02	1.00	1.00	1.14	1.07
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	2	1	1	2
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (ft)	20	20	100	20	20	100
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	6	20	20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Prot	NA	Perm	pm+pt	NA



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Protected Phases	3	3	2		1	6
Permitted Phases				2	6	
Detector Phase	3	3	2	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	38.0	38.0	49.0	49.0	11.0	11.0
Total Split (s)	39.0	39.0	50.0	50.0	21.0	71.0
Total Split (%)	35.5%	35.5%	45.5%	45.5%	19.1%	64.5%
Maximum Green (s)	33.0	33.0	44.0	44.0	15.0	65.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	Ped	Ped	Ped	Ped	Max	C-Max
Walk Time (s)	7.0	7.0	16.0	16.0		
Flash Dont Walk (s)	25.0	25.0	27.0	27.0		
Pedestrian Calls (#/hr)	0	0	0	0		
Act Effct Green (s)	32.0	32.0	44.0	44.0	66.0	66.0
Actuated g/C Ratio	0.29	0.29	0.40	0.40	0.60	0.60
v/c Ratio	0.43	0.42	0.78	0.18	1.15	0.62
Control Delay	15.9	6.1	27.1	6.0	134.0	17.4
Queue Delay	0.0	0.0	0.2	0.0	0.0	0.6
Total Delay	15.9	6.1	27.3	6.0	134.0	18.0
LOS	B	A	C	A	F	B
Approach Delay	12.6		25.2			43.6
Approach LOS	B		C			D
Queue Length 50th (ft)	64	0	376	8	~236	224
Queue Length 95th (ft)	111	64	m448	m22	#438	323
Internal Link Dist (ft)	440		483			1400
Turn Bay Length (ft)				100	180	
Base Capacity (vph)	1151	602	1415	666	305	2020
Starvation Cap Reductn	0	0	28	0	0	0
Spillback Cap Reductn	28	0	0	0	0	387
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.42	0.79	0.18	1.15	0.76

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 0 (0%), Referenced to phase 6:SBTL, Start of Green			
Natural Cycle: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.15			
Intersection Signal Delay: 30.9		Intersection LOS: C	
Intersection Capacity Utilization 73.4%		ICU Level of Service D	

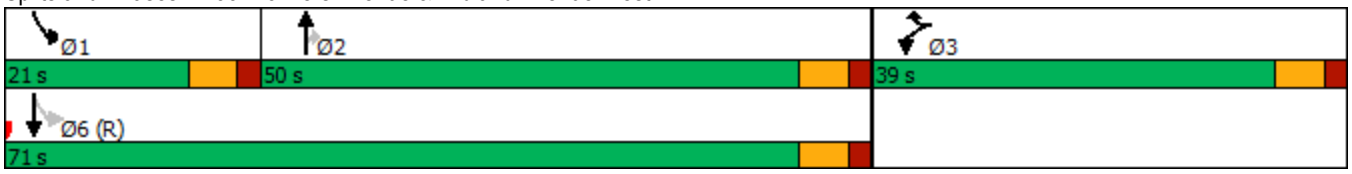
Analysis Period (min) 15

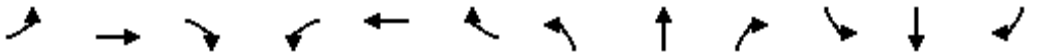
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

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

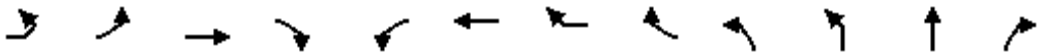
Splits and Phases: 33: Yonkers Avenue & Midland Avenue West



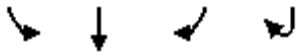


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↱		↑↑							↱
Traffic Volume (vph)	0	1803	463	0	1628	0	0	0	0	0	0	216
Future Volume (vph)	0	1803	463	0	1628	0	0	0	0	0	0	216
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850									0.865
Flt Protected												
Satd. Flow (prot)	0	3539	1615	0	3539	0	0	0	0	0	0	1644
Flt Permitted												
Satd. Flow (perm)	0	3539	1615	0	3539	0	0	0	0	0	0	1644
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		325			399			181			209	
Travel Time (s)		7.4			9.1			4.1			4.8	
Peak Hour Factor	0.92	0.92	0.92	0.97	0.97	0.97	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	2%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	0	1960	503	0	1678	0	0	0	0	0	0	235
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1960	503	0	1678	0	0	0	0	0	0	235
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			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
Sign Control		Free			Free			Free			Stop	

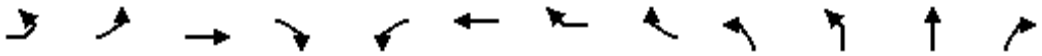
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 65.0%		ICU Level of Service C	
Analysis Period (min) 15			



Lane Group	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL2	NBL	NBT	NBR
Lane Configurations												
Traffic Volume (vph)	126	218	18	81	1	21	7	34	6	68	931	4
Future Volume (vph)	126	218	18	81	1	21	7	34	6	68	931	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	12	12	13	13	13	13	12	11	13	13
Storage Length (ft)		0		0	0		0			100		0
Storage Lanes		1		0	0		0			1		0
Taper Length (ft)		25			25					25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	0.95
Frt			0.878			0.912					0.999	
Flt Protected		0.950				0.999				0.950		
Satd. Flow (prot)	0	1711	1635	0	0	1754	0	0	0	1711	3654	0
Flt Permitted		0.712				0.998				0.082		
Satd. Flow (perm)	0	1282	1635	0	0	1752	0	0	0	148	3654	0
Right Turn on Red				Yes				Yes				Yes
Satd. Flow (RTOR)			88			37					1	
Link Speed (mph)			30			30					30	
Link Distance (ft)			264			380					327	
Travel Time (s)			6.0			8.6					7.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.97	0.97	0.97	0.97
Adj. Flow (vph)	137	237	20	88	1	23	8	37	6	70	960	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	374	108	0	0	69	0	0	0	76	964	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Left	Right	Right	Left	Left	Left	Right
Median Width(ft)			11			0					12	
Link Offset(ft)			0			0					0	
Crosswalk Width(ft)			16			16					16	
Two way Left Turn Lane												
Headway Factor	1.00	1.04	1.00	1.00	0.96	0.96	0.96	0.96	1.00	1.04	0.96	0.96
Turning Speed (mph)	15	15		9	15		9	9	15	15		9
Number of Detectors	1	1	2		1	2			1	1	2	
Detector Template	Left	Left	Thru		Left	Thru			Left	Left	Thru	
Leading Detector (ft)	20	20	100		20	100			20	20	100	
Trailing Detector (ft)	0	0	0		0	0			0	0	0	
Detector 1 Position(ft)	0	0	0		0	0			0	0	0	
Detector 1 Size(ft)	20	20	6		20	6			20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0			0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0			0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0			0.0	0.0	0.0	
Detector 2 Position(ft)			94			94					94	
Detector 2 Size(ft)			6			6					6	
Detector 2 Type			Cl+Ex			Cl+Ex					Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)			0.0			0.0					0.0	
Turn Type		Perm	NA		Perm	NA				pm+pt	NA	
Protected Phases			3			3				1	6	



Lane Group	SBL	SBT	SBR	SBR2
Lane Configurations				
Traffic Volume (vph)	17	880	174	288
Future Volume (vph)	17	880	174	288
Ideal Flow (vphpl)	1900	1900	1900	1900
Lane Width (ft)	12	12	12	16
Storage Length (ft)	150		210	
Storage Lanes	1		0	
Taper Length (ft)	25			
Lane Util. Factor	1.00	0.95	0.95	0.95
Frt		0.948		
Flt Protected	0.950			
Satd. Flow (prot)	1770	3355	0	0
Flt Permitted	0.297			
Satd. Flow (perm)	553	3355	0	0
Right Turn on Red				Yes
Satd. Flow (RTOR)		37		
Link Speed (mph)		30		
Link Distance (ft)		563		
Travel Time (s)		12.8		
Peak Hour Factor	0.92	0.92	0.92	0.92
Adj. Flow (vph)	18	957	189	313
Shared Lane Traffic (%)				
Lane Group Flow (vph)	18	1459	0	0
Enter Blocked Intersection	No	No	No	No
Lane Alignment	Left	Left	Right	Right
Median Width(ft)		12		
Link Offset(ft)		0		
Crosswalk Width(ft)		16		
Two way Left Turn Lane				
Headway Factor	1.00	1.00	1.00	0.85
Turning Speed (mph)	15		9	9
Number of Detectors	1	2		
Detector Template	Left	Thru		
Leading Detector (ft)	20	100		
Trailing Detector (ft)	0	0		
Detector 1 Position(ft)	0	0		
Detector 1 Size(ft)	20	6		
Detector 1 Type	Cl+Ex	Cl+Ex		
Detector 1 Channel				
Detector 1 Extend (s)	0.0	0.0		
Detector 1 Queue (s)	0.0	0.0		
Detector 1 Delay (s)	0.0	0.0		
Detector 2 Position(ft)		94		
Detector 2 Size(ft)		6		
Detector 2 Type		Cl+Ex		
Detector 2 Channel				
Detector 2 Extend (s)		0.0		
Turn Type	Perm	NA		
Protected Phases		2		



Lane Group	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL2	NBL	NBT	NBR
Permitted Phases		3			3					6		
Detector Phase		3	3		3	3				1	6	
Switch Phase												
Minimum Initial (s)		5.0	5.0		5.0	5.0				5.0	5.0	
Minimum Split (s)		39.0	39.0		39.0	39.0				11.0	69.0	
Total Split (s)		40.0	40.0		40.0	40.0				21.0	70.0	
Total Split (%)		36.4%	36.4%		36.4%	36.4%				19.1%	63.6%	
Maximum Green (s)		34.0	34.0		34.0	34.0				15.0	64.0	
Yellow Time (s)		4.0	4.0		4.0	4.0				4.0	4.0	
All-Red Time (s)		2.0	2.0		2.0	2.0				2.0	2.0	
Lost Time Adjust (s)		0.0	0.0			0.0				0.0	0.0	
Total Lost Time (s)		6.0	6.0			6.0				6.0	6.0	
Lead/Lag										Lead		
Lead-Lag Optimize?										Yes		
Vehicle Extension (s)		3.0	3.0		3.0	3.0				3.0	3.0	
Recall Mode		Ped	Ped		Ped	Ped				Max	C-Max	
Walk Time (s)		5.0	5.0		5.0	5.0					38.0	
Flash Dont Walk (s)		28.0	28.0		28.0	28.0					25.0	
Pedestrian Calls (#/hr)		0	0		0	0					0	
Act Effct Green (s)		33.8	33.8			33.8				64.2	64.2	
Actuated g/C Ratio		0.31	0.31			0.31				0.58	0.58	
v/c Ratio		0.95	0.19			0.12				0.25	0.45	
Control Delay		72.9	9.3			15.4				12.2	13.8	
Queue Delay		0.0	0.0			0.0				0.0	0.0	
Total Delay		72.9	9.3			15.4				12.2	13.8	
LOS		E	A			B				B	B	
Approach Delay			58.6			15.4					13.7	
Approach LOS			E			B					B	
Queue Length 50th (ft)		257	10			16				22	191	
Queue Length 95th (ft)		#445	50			49				43	238	
Internal Link Dist (ft)			184			300					247	
Turn Bay Length (ft)										100		
Base Capacity (vph)		396	566			567				302	2133	
Starvation Cap Reductn		0	0			0				0	0	
Spillback Cap Reductn		0	0			0				0	57	
Storage Cap Reductn		0	0			0				0	0	
Reduced v/c Ratio		0.94	0.19			0.12				0.25	0.46	

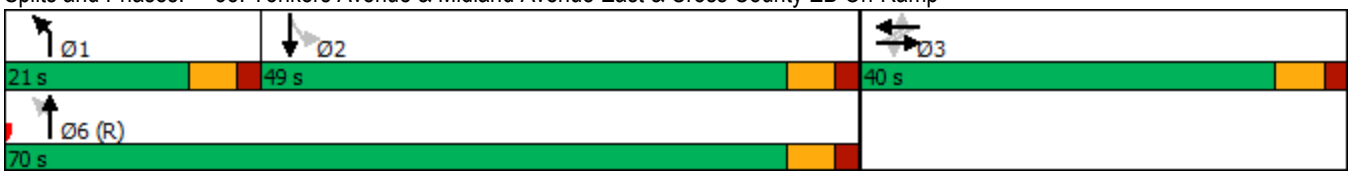
Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 0 (0%), Referenced to phase 6:NBTL, Start of Green			
Natural Cycle: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.09			
Intersection Signal Delay: 51.4		Intersection LOS: D	
Intersection Capacity Utilization 84.0%		ICU Level of Service E	
Analysis Period (min) 15			

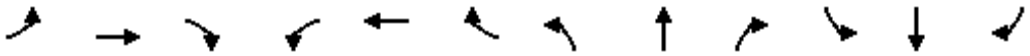
Lane Group	SBL	SBT	SBR	SBR2
Permitted Phases	2			
Detector Phase	2	2		
Switch Phase				
Minimum Initial (s)	5.0	5.0		
Minimum Split (s)	48.0	48.0		
Total Split (s)	49.0	49.0		
Total Split (%)	44.5%	44.5%		
Maximum Green (s)	43.0	43.0		
Yellow Time (s)	4.0	4.0		
All-Red Time (s)	2.0	2.0		
Lost Time Adjust (s)	0.0	0.0		
Total Lost Time (s)	6.0	6.0		
Lead/Lag	Lag	Lag		
Lead-Lag Optimize?	Yes	Yes		
Vehicle Extension (s)	3.0	3.0		
Recall Mode	Ped	Ped		
Walk Time (s)	20.0	20.0		
Flash Dont Walk (s)	22.0	22.0		
Pedestrian Calls (#/hr)	0	0		
Act Effct Green (s)	43.0	43.0		
Actuated g/C Ratio	0.39	0.39		
v/c Ratio	0.08	1.09		
Control Delay	17.8	78.0		
Queue Delay	0.0	0.0		
Total Delay	17.8	78.0		
LOS	B	E		
Approach Delay		77.2		
Approach LOS		E		
Queue Length 50th (ft)	5	~591		
Queue Length 95th (ft)	m11	#732		
Internal Link Dist (ft)		483		
Turn Bay Length (ft)	150			
Base Capacity (vph)	216	1334		
Starvation Cap Reductn	0	0		
Spillback Cap Reductn	0	0		
Storage Cap Reductn	0	0		
Reduced v/c Ratio	0.08	1.09		

Intersection Summary

~ 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: 35: Yonkers Avenue & Midland Avenue East & Cross County EB On-Ramp



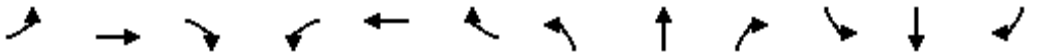


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	423	68	119	353	121	0	0	0	0	0	0
Future Volume (vph)	39	423	68	119	353	121	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	16	16	16	16	16	16	16	16	16	16	16	16
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.981			0.962							
Flt Protected		0.996		0.950								
Satd. Flow (prot)	0	3919	0	2006	2031	0	0	0	0	0	0	0
Flt Permitted		0.996		0.950								
Satd. Flow (perm)	0	3919	0	2006	2031	0	0	0	0	0	0	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		256			511			286			516	
Travel Time (s)		5.8			11.6			6.5			11.7	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	45	492	79	138	410	141	0	0	0	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	616	0	138	551	0	0	0	0	0	0	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)		12			24			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 47.6%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	579	63	49	393	26	58
Future Volume (vph)	579	63	49	393	26	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	14	14	13	13
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.987				0.907	
Flt Protected				0.995	0.985	
Satd. Flow (prot)	1555	0	0	1977	1505	0
Flt Permitted				0.995	0.985	
Satd. Flow (perm)	1555	0	0	1977	1505	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	208			436	1494	
Travel Time (s)	4.7			9.9	34.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Parking (#/hr)	5				5	
Adj. Flow (vph)	629	68	53	427	28	63
Shared Lane Traffic (%)						
Lane Group Flow (vph)	697	0	0	480	91	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	13	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.24	1.04	0.92	0.92	1.14	0.96
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	72.7%	ICU Level of Service	C
Analysis Period (min)	15		

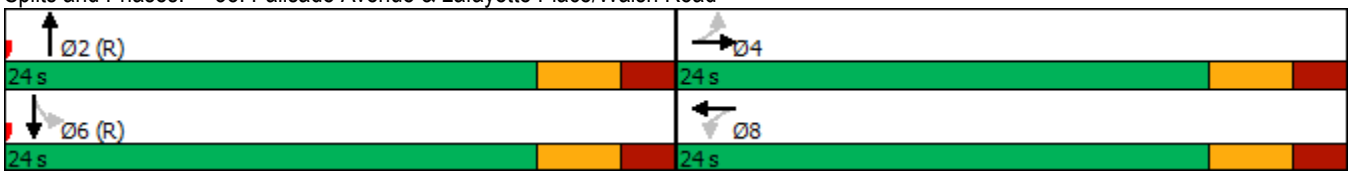


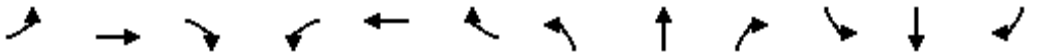
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	8	19	24	0	39	0	283	32	28	272	0
Future Volume (vph)	29	8	19	24	0	39	0	283	32	28	272	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	15	15	15	13	13	13	16	16	16	16	16	16
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		0.954			0.917			0.986				
Flt Protected		0.975			0.981						0.995	
Satd. Flow (prot)	0	1668	0	0	1732	0	0	1814	0	0	1831	0
Flt Permitted		0.869			0.906						0.947	
Satd. Flow (perm)	0	1486	0	0	1599	0	0	1814	0	0	1742	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		21			45			14				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		226			227			1248			549	
Travel Time (s)		5.1			5.2			28.4			12.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Bus Blockages (#/hr)	0	0	0	0	0	0	0	1	0	0	1	0
Parking (#/hr)		5						5			5	
Adj. Flow (vph)	32	9	21	26	0	42	0	308	35	30	296	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	62	0	0	68	0	0	343	0	0	326	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	0.88	1.05	0.88	0.96	0.96	0.96	0.85	1.02	0.85	0.85	1.02	0.85
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA			NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8						6		
Minimum Split (s)	10.0	10.0		10.0	10.0			10.0		10.0	10.0	
Total Split (s)	24.0	24.0		24.0	24.0			24.0		24.0	24.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%			50.0%		50.0%	50.0%	
Maximum Green (s)	19.0	19.0		19.0	19.0			19.0		19.0	19.0	
Yellow Time (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0			2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		19.0			19.0			19.0			19.0	
Actuated g/C Ratio		0.40			0.40			0.40			0.40	
v/c Ratio		0.10			0.10			0.47			0.47	
Control Delay		7.4			5.4			13.0			13.6	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		7.4			5.4			13.0			13.6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS		A			A			B			B	
Approach Delay		7.4			5.4			13.0			13.6	
Approach LOS		A			A			B			B	
Queue Length 50th (ft)		7			4			64			64	
Queue Length 95th (ft)		24			21			121			120	
Internal Link Dist (ft)		146			147			1168			469	
Turn Bay Length (ft)												
Base Capacity (vph)		600			660			726			689	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.10			0.10			0.47			0.47	

Intersection Summary			
Area Type:	Other		
Cycle Length: 48			
Actuated Cycle Length: 48			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green			
Natural Cycle: 40			
Control Type: Pretimed			
Maximum v/c Ratio: 0.47			
Intersection Signal Delay: 12.2		Intersection LOS: B	
Intersection Capacity Utilization 49.9%		ICU Level of Service A	
Analysis Period (min) 15			

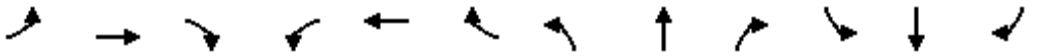
Splits and Phases: 38: Palisade Avenue & Lafayette Place/Walsh Road





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	285	134	0	128	0	0	0	0
Future Volume (vph)	0	0	0	0	285	134	0	128	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	16	16	16	16	16	16	12	12	12
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.957							
Flt Protected												
Satd. Flow (prot)	0	0	0	0	2020	0	0	1664	0	0	0	0
Flt Permitted												
Satd. Flow (perm)	0	0	0	0	2020	0	0	1664	0	0	0	0
Right Turn on Red			Yes			No			No			Yes
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		81			430			212			254	
Travel Time (s)		1.8			9.8			4.8			5.8	
Peak Hour Factor	0.92	0.92	0.92	0.86	0.86	0.86	0.92	0.92	0.92	0.92	0.92	0.92
Bus Blockages (#/hr)	0	0	0	0	0	0	0	53	0	0	0	0
Adj. Flow (vph)	0	0	0	0	331	156	0	139	0	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	487	0	0	139	0	0	0	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	0.85	0.85	0.85	0.85	1.16	0.85	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors					2		1	2				
Detector Template					Thru		Left	Thru				
Leading Detector (ft)					100		20	100				
Trailing Detector (ft)					0		0	0				
Detector 1 Position(ft)					0		0	0				
Detector 1 Size(ft)					6		20	6				
Detector 1 Type					Cl+Ex		Cl+Ex	Cl+Ex				
Detector 1 Channel												
Detector 1 Extend (s)					0.0		0.0	0.0				
Detector 1 Queue (s)					0.0		0.0	0.0				
Detector 1 Delay (s)					0.0		0.0	0.0				
Detector 2 Position(ft)					94			94				
Detector 2 Size(ft)					6			6				
Detector 2 Type					Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0				
Turn Type					NA			NA				
Protected Phases					1			3				
Permitted Phases							3					
Detector Phase					1		3	3				

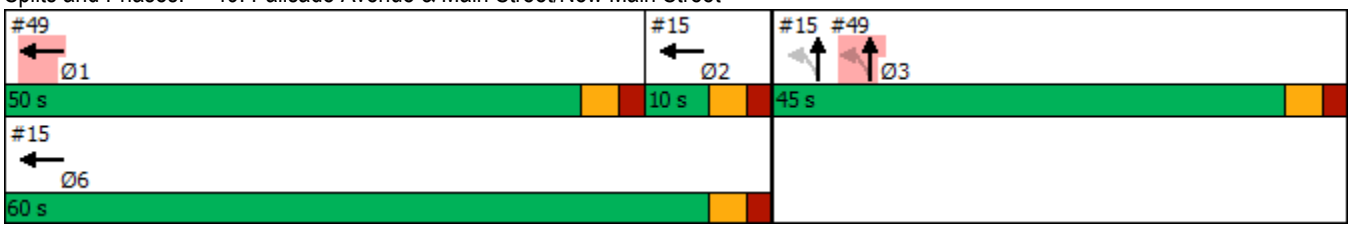
Lane Group	Ø2	Ø6
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Lane Width (ft)		
Lane Util. Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Peak Hour Factor		
Bus Blockages (#/hr)		
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)		
Number of Detectors		
Detector Template		
Leading Detector (ft)		
Trailing Detector (ft)		
Detector 1 Position(ft)		
Detector 1 Size(ft)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Detector 2 Position(ft)		
Detector 2 Size(ft)		
Detector 2 Type		
Detector 2 Channel		
Detector 2 Extend (s)		
Turn Type		
Protected Phases	2	6
Permitted Phases		
Detector Phase		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)					5.0		5.0	5.0				
Minimum Split (s)					50.0		45.0	45.0				
Total Split (s)					50.0		45.0	45.0				
Total Split (%)					47.6%		42.9%	42.9%				
Maximum Green (s)					45.0		40.0	40.0				
Yellow Time (s)					3.0		3.0	3.0				
All-Red Time (s)					2.0		2.0	2.0				
Lost Time Adjust (s)					0.0			0.0				
Total Lost Time (s)					5.0			5.0				
Lead/Lag					Lead							
Lead-Lag Optimize?					Yes							
Vehicle Extension (s)					3.0		3.0	3.0				
Recall Mode					Ped		Ped	Ped				
Walk Time (s)					35.0		30.0	30.0				
Flash Dont Walk (s)					10.0		10.0	10.0				
Pedestrian Calls (#/hr)					0		0	0				
Act Effct Green (s)					45.0			40.0				
Actuated g/C Ratio					0.43			0.38				
v/c Ratio					0.56			0.22				
Control Delay					25.7			23.2				
Queue Delay					0.0			0.0				
Total Delay					25.7			23.2				
LOS					C			C				
Approach Delay					25.7			23.2				
Approach LOS					C			C				
Queue Length 50th (ft)					241			62				
Queue Length 95th (ft)					322			108				
Internal Link Dist (ft)		1			350			132			174	
Turn Bay Length (ft)												
Base Capacity (vph)					865			633				
Starvation Cap Reductn					0			0				
Spillback Cap Reductn					0			0				
Storage Cap Reductn					0			0				
Reduced v/c Ratio					0.56			0.22				

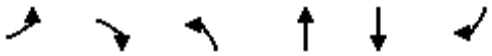
Intersection Summary			
Area Type:	Other		
Cycle Length: 105			
Actuated Cycle Length: 105			
Natural Cycle: 105			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.56			
Intersection Signal Delay: 25.2		Intersection LOS: C	
Intersection Capacity Utilization 38.2%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 49: Palisade Avenue & Main Street/New Main Street



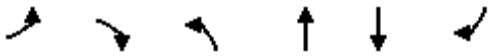
Lane Group	Ø2	Ø6
Switch Phase		
Minimum Initial (s)	2.0	5.0
Minimum Split (s)	7.0	10.0
Total Split (s)	10.0	60.0
Total Split (%)	10%	57%
Maximum Green (s)	5.0	55.0
Yellow Time (s)	3.0	3.0
All-Red Time (s)	2.0	2.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lag	
Lead-Lag Optimize?	Yes	
Vehicle Extension (s)	3.0	3.0
Recall Mode	Max	Max
Walk Time (s)		
Flash Dont Walk (s)		
Pedestrian Calls (#/hr)		
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		

Intersection Summary



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	84	112	0
Future Volume (vph)	0	0	0	84	112	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	1863	0	0	1863	1863	0
Flt Permitted						
Satd. Flow (perm)	1863	0	0	1863	1863	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	126			499	1494	
Travel Time (s)	2.9			11.3	34.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	91	122	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	91	122	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			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)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 9.2%		ICU Level of Service A	
Analysis Period (min) 15			



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	384	492	0
Future Volume (vph)	0	0	0	384	492	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	1863	0	0	1863	1863	0
Flt Permitted						
Satd. Flow (perm)	1863	0	0	1863	1863	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	172			284	235	
Travel Time (s)	3.9			6.5	5.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	417	535	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	417	535	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			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)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 29.2%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	106	27	27	134	0	18	0	32	4	0	10
Future Vol, veh/h	0	106	27	27	134	0	18	0	32	4	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	89	89	86	86	92	92	92	92	92	92	92
Heavy Vehicles, %	2	8	8	7	7	2	2	2	2	2	2	2
Mvmt Flow	0	119	30	31	156	0	20	0	35	4	0	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	149	0	0	358	-	134	370	367	156
Stage 1	-	-	-	-	-	-	134	-	-	218	218	-
Stage 2	-	-	-	-	-	-	224	-	-	152	149	-
Critical Hdwy	-	-	-	4.17	-	-	7.12	-	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	-	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	-	-	6.12	5.52	-
Follow-up Hdwy	-	-	-	2.263	-	-	3.518	-	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	0	-	-	1402	-	0	597	0	915	587	562	890
Stage 1	0	-	-	-	-	0	869	0	-	784	723	-
Stage 2	0	-	-	-	-	0	779	0	-	850	774	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	1402	-	-	579	-	915	554	549	890
Mov Cap-2 Maneuver	-	-	-	-	-	-	579	-	-	554	549	-
Stage 1	-	-	-	-	-	-	869	-	-	784	706	-
Stage 2	-	-	-	-	-	-	751	-	-	818	774	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	1.3	10.1	9.8
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	757	-	-	1402	-	759
HCM Lane V/C Ratio	0.072	-	-	0.022	-	0.02
HCM Control Delay (s)	10.1	-	-	7.6	0	9.8
HCM Lane LOS	B	-	-	A	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-	0.1

Intersection	
Int Delay, s/veh	6.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	89	0	0	0	0	17	49	58	22	0	32
Future Vol, veh/h	1	89	0	0	0	0	17	49	58	22	0	32
Conflicting Peds, #/hr	0	0	22	0	0	21	0	0	14	0	0	39
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	92	92	92	86	86	86	81	81	81
Heavy Vehicles, %	13	13	13	2	2	2	11	11	11	10	10	10
Mvmt Flow	1	109	0	0	0	0	20	57	67	27	0	40

Major/Minor	Major1			Minor1			Minor2		
Conflicting Flow All	0	0	-	170	111	123	187	111	39
Stage 1	-	-	-	111	111	-	0	0	-
Stage 2	-	-	-	59	0	-	187	111	-
Critical Hdwy	4.23	-	-	7.21	6.61	6.31	7.2	6.6	6.3
Critical Hdwy Stg 1	-	-	-	6.21	5.61	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.2	5.6	-
Follow-up Hdwy	2.317	-	-	3.599	4.099	3.399	3.59	4.09	3.39
Pot Cap-1 Maneuver	-	-	0	774	763	904	756	764	1010
Stage 1	-	-	0	873	786	-	-	-	-
Stage 2	-	-	0	-	-	-	797	788	-
Platoon blocked, %		-							
Mov Cap-1 Maneuver	-	-	-	717	763	904	660	764	976
Mov Cap-2 Maneuver	-	-	-	717	763	-	660	764	-
Stage 1	-	-	-	873	786	-	-	-	-
Stage 2	-	-	-	-	-	-	684	788	-

Approach	EB	NB	SB
HCM Control Delay, s		10.4	9.8
HCM LOS		B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	SBLn1
Capacity (veh/h)	815	-	-	817
HCM Lane V/C Ratio	0.177	-	-	0.082
HCM Control Delay (s)	10.4	-	-	9.8
HCM Lane LOS	B	-	-	A
HCM 95th %tile Q(veh)	0.6	-	-	0.3

Intersection	
Int Delay, s/veh	5.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	213	0	0	421	0	0
Future Vol, veh/h	213	0	0	421	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	16979	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	232	0	0	458	0	0

Major/Minor	Minor2		Major1	
Conflicting Flow All	458	-	-	0
Stage 1	0	-	-	-
Stage 2	458	-	-	-
Critical Hdwy	6.42	-	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-
Follow-up Hdwy	3.518	-	-	-
Pot Cap-1 Maneuver	561	0	0	-
Stage 1	-	0	0	-
Stage 2	637	0	0	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	561	-	-	-
Mov Cap-2 Maneuver	561	-	-	-
Stage 1	-	-	-	-
Stage 2	637	-	-	-

Approach	EB	NB
HCM Control Delay, s	15.9	0
HCM LOS	C	

Minor Lane/Major Mvmt	NBT	EBLn1
Capacity (veh/h)	-	561
HCM Lane V/C Ratio	-	0.413
HCM Control Delay (s)	-	15.9
HCM Lane LOS	-	C
HCM 95th %tile Q(veh)	-	2

Intersection	
Int Delay, s/veh	11.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1254	0	0	1925	49	161
Future Vol, veh/h	1254	0	0	1925	49	161
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	120	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	5	-	-	-5	0	-
Peak Hour Factor	92	92	97	97	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1363	0	0	1985	53	175

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1363	0	2157	682
Stage 1	-	-	-	-	1363	-
Stage 2	-	-	-	-	794	-
Critical Hdwy	-	-	5.34	-	5.74	7.14
Critical Hdwy Stg 1	-	-	-	-	6.64	-
Critical Hdwy Stg 2	-	-	-	-	6.04	-
Follow-up Hdwy	-	-	3.12	-	3.82	3.92
Pot Cap-1 Maneuver	-	-	260	-	77	336
Stage 1	-	-	-	-	144	-
Stage 2	-	-	-	-	368	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	260	-	77	336
Mov Cap-2 Maneuver	-	-	-	-	77	-
Stage 1	-	-	-	-	144	-
Stage 2	-	-	-	-	368	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	185.4
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	188	-	-	260	-
HCM Lane V/C Ratio	1.214	-	-	-	-
HCM Control Delay (s)	185.4	-	-	0	-
HCM Lane LOS	F	-	-	A	-
HCM 95th %tile Q(veh)	12.1	-	-	0	-

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↱		↑↑							↱
Traffic Vol, veh/h	0	1803	463	0	1628	0	0	0	0	0	0	216
Future Vol, veh/h	0	1803	463	0	1628	0	0	0	0	0	0	216
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	16965	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	97	97	97	92	92	92	92	92	92
Heavy Vehicles, %	0	2	0	0	2	0	0	0	0	0	0	0
Mvmt Flow	0	1960	503	0	1678	0	0	0	0	0	0	235

Major/Minor	Major1			Major2					Minor2		
Conflicting Flow All	-	0	0	-	-	0			-	-	839
Stage 1	-	-	-	-	-	-			-	-	-
Stage 2	-	-	-	-	-	-			-	-	-
Critical Hdwy	-	-	-	-	-	-			-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-			-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-			-	-	-
Follow-up Hdwy	-	-	-	-	-	-			-	-	3.3
Pot Cap-1 Maneuver	0	-	-	0	-	0			0	0	313
Stage 1	0	-	-	0	-	0			0	0	-
Stage 2	0	-	-	0	-	0			0	0	-
Platoon blocked, %		-	-		-						
Mov Cap-1 Maneuver	-	-	-	-	-	-			-	0	313
Mov Cap-2 Maneuver	-	-	-	-	-	-			-	0	-
Stage 1	-	-	-	-	-	-			-	0	-
Stage 2	-	-	-	-	-	-			-	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	44.2
HCM LOS			E

Minor Lane/Major Mvmt	EBT	EBR	WBT	SBLn1
Capacity (veh/h)	-	-	-	313
HCM Lane V/C Ratio	-	-	-	0.75
HCM Control Delay (s)	-	-	-	44.2
HCM Lane LOS	-	-	-	E
HCM 95th %tile Q(veh)	-	-	-	5.7

Intersection	
Int Delay, s/veh	1.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	579	63	49	393	26	58
Future Vol, veh/h	579	63	49	393	26	58
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	629	68	53	427	28	63

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	697	0	1196	663
Stage 1	-	-	-	-	663	-
Stage 2	-	-	-	-	533	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	899	-	206	461
Stage 1	-	-	-	-	512	-
Stage 2	-	-	-	-	588	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	899	-	190	461
Mov Cap-2 Maneuver	-	-	-	-	190	-
Stage 1	-	-	-	-	512	-
Stage 2	-	-	-	-	543	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1	20.7
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	320	-	-	899	-
HCM Lane V/C Ratio	0.285	-	-	0.059	-
HCM Control Delay (s)	20.7	-	-	9.3	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	1.2	-	-	0.2	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	84	112	0
Future Vol, veh/h	0	0	0	84	112	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	91	122	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	213	122	122	0	-	0
Stage 1	122	-	-	-	-	-
Stage 2	91	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	775	929	1465	-	-	-
Stage 1	903	-	-	-	-	-
Stage 2	933	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	775	929	1465	-	-	-
Mov Cap-2 Maneuver	775	-	-	-	-	-
Stage 1	903	-	-	-	-	-
Stage 2	933	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1465	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	384	492	0
Future Vol, veh/h	0	0	0	384	492	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	417	535	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	952	535	535	0	-	0
Stage 1	535	-	-	-	-	-
Stage 2	417	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	288	545	1033	-	-	-
Stage 1	587	-	-	-	-	-
Stage 2	665	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	288	545	1033	-	-	-
Mov Cap-2 Maneuver	288	-	-	-	-	-
Stage 1	587	-	-	-	-	-
Stage 2	665	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1033	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Intersection Delay, s/veh	20.2
Intersection LOS	C

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	29	20	347	37	53	463
Future Vol, veh/h	29	20	347	37	53	463
Peak Hour Factor	0.81	0.81	0.93	0.93	0.83	0.83
Heavy Vehicles, %	9	9	23	23	6	6
Mvmt Flow	36	25	373	40	64	558
Number of Lanes	1	0	1	0	0	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	1	0
HCM Control Delay	10.1	15.1	24.6
HCM LOS	B	C	C

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	0%	59%	10%
Vol Thru, %	90%	0%	90%
Vol Right, %	10%	41%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	384	49	516
LT Vol	0	29	53
Through Vol	347	0	463
RT Vol	37	20	0
Lane Flow Rate	413	60	622
Geometry Grp	1	1	1
Degree of Util (X)	0.584	0.106	0.81
Departure Headway (Hd)	5.091	6.326	4.69
Convergence, Y/N	Yes	Yes	Yes
Cap	706	570	771
Service Time	3.156	4.326	2.745
HCM Lane V/C Ratio	0.585	0.105	0.807
HCM Control Delay	15.1	10.1	24.6
HCM Lane LOS	C	B	C
HCM 95th-tile Q	3.8	0.4	8.6

Intersection	
Intersection Delay, s/veh	40.4
Intersection LOS	E

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	104	249	135	194	336	156
Future Vol, veh/h	104	249	135	194	336	156
Peak Hour Factor	0.86	0.86	0.85	0.85	0.82	0.82
Heavy Vehicles, %	5	5	8	8	13	13
Mvmt Flow	121	290	159	228	410	190
Number of Lanes	1	1	1	0	0	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	2	0
HCM Control Delay	15.7	19.6	70.6
HCM LOS	C	C	F

Lane	NBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	0%	100%	0%	68%
Vol Thru, %	41%	0%	0%	32%
Vol Right, %	59%	0%	100%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	329	104	249	492
LT Vol	0	104	0	336
Through Vol	135	0	0	156
RT Vol	194	0	249	0
Lane Flow Rate	387	121	290	600
Geometry Grp	2	7	7	2
Degree of Util (X)	0.647	0.263	0.531	1.031
Departure Headway (Hd)	6.116	7.937	6.706	6.184
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	596	456	541	582
Service Time	4.116	5.637	4.406	4.27
HCM Lane V/C Ratio	0.649	0.265	0.536	1.031
HCM Control Delay	19.6	13.4	16.7	70.6
HCM Lane LOS	C	B	C	F
HCM 95th-tile Q	4.7	1	3.1	16.1

Intersection	
Intersection Delay, s/veh	12.7
Intersection LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	202	152	0	281	0	0
Future Vol, veh/h	202	152	0	281	0	0
Peak Hour Factor	0.86	0.86	0.92	0.92	0.92	0.92
Heavy Vehicles, %	11	11	6	6	2	2
Mvmt Flow	235	177	0	305	0	0
Number of Lanes	1	0	0	1	0	0

Approach	EB	NB
Opposing Approach		
Opposing Lanes	0	0
Conflicting Approach Left		EB
Conflicting Lanes Left	0	1
Conflicting Approach Right	NB	
Conflicting Lanes Right	1	0
HCM Control Delay	13.3	11.8
HCM LOS	B	B

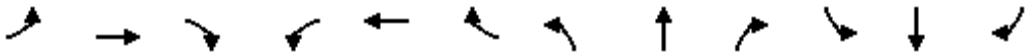
Lane	NBLn1	EBLn1
Vol Left, %	0%	57%
Vol Thru, %	100%	0%
Vol Right, %	0%	43%
Sign Control	Stop	Stop
Traffic Vol by Lane	281	354
LT Vol	0	202
Through Vol	281	0
RT Vol	0	152
Lane Flow Rate	305	412
Geometry Grp	1	1
Degree of Util (X)	0.425	0.541
Departure Headway (Hd)	5.009	4.732
Convergence, Y/N	Yes	Yes
Cap	715	762
Service Time	3.066	2.779
HCM Lane V/C Ratio	0.427	0.541
HCM Control Delay	11.8	13.3
HCM Lane LOS	B	B
HCM 95th-tile Q	2.1	3.3

Intersection	
Intersection Delay, s/veh	9.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	44	158	60	0	0	0	0	40	23	62	50	0
Future Vol, veh/h	44	158	60	0	0	0	0	40	23	62	50	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	48	172	65	0	0	0	0	43	25	67	54	0
Number of Lanes	0	1	0	0	0	0	0	1	0	0	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	9.5	8	8.7
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	0%	17%	55%
Vol Thru, %	63%	60%	45%
Vol Right, %	37%	23%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	63	262	112
LT Vol	0	44	62
Through Vol	40	158	50
RT Vol	23	60	0
Lane Flow Rate	68	285	122
Geometry Grp	1	1	1
Degree of Util (X)	0.086	0.339	0.161
Departure Headway (Hd)	4.514	4.286	4.774
Convergence, Y/N	Yes	Yes	Yes
Cap	794	840	752
Service Time	2.539	2.303	2.798
HCM Lane V/C Ratio	0.086	0.339	0.162
HCM Control Delay	8	9.5	8.7
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.3	1.5	0.6



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	423	68	119	353	121	0	0	0	0	0	0
Future Volume (Veh/h)	39	423	68	119	353	121	0	0	0	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	45	492	79	138	410	141	0	0	0	0	0	0
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	346	0	0	325	0	0	0			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	346	0	0	325	0	0	0			0		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	87	45	93	58	54	87	100			100		
cM capacity (veh/h)	339	896	1085	329	896	1085	1623			1623		

Direction, Lane #	EB 1	EB 2	WB 1	WB 2
Volume Total	291	325	138	551
Volume Left	45	0	138	0
Volume Right	0	79	0	141
cSH	715	936	329	938
Volume to Capacity	0.41	0.35	0.42	0.59
Queue Length 95th (ft)	50	39	50	99
Control Delay (s)	13.5	10.9	23.6	14.2
Lane LOS	B	B	C	B
Approach Delay (s)	12.1		16.0	
Approach LOS	B		C	

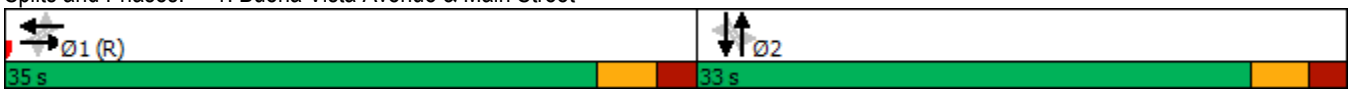
Intersection Summary				
Average Delay	14.2			
Intersection Capacity Utilization	47.6%	ICU Level of Service	A	
Analysis Period (min)	15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	185	168	45	89	165	53	291	27	69	487	10
Future Volume (vph)	14	185	168	45	89	165	53	291	27	69	487	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	16	16	16	14	14	14	11	11	11	13	13	13
Storage Length (ft)	150		150	150		150	150		150	150		150
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.96			0.93			0.99			1.00	
Frt		0.938			0.926			0.990			0.998	
Flt Protected		0.998			0.993			0.993			0.994	
Satd. Flow (prot)	0	1605	0	0	1390	0	0	1488	0	0	1668	0
Flt Permitted		0.983			0.894			0.831			0.895	
Satd. Flow (perm)	0	1581	0	0	1251	0	0	1245	0	0	1502	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		113			249			300			234	
Travel Time (s)		2.6			5.7			6.8			5.3	
Confl. Peds. (#/hr)			67			93			107			49
Peak Hour Factor	0.86	0.86	0.86	0.92	0.92	0.92	0.84	0.84	0.84	0.88	0.88	0.88
Heavy Vehicles (%)	2%	2%	2%	6%	6%	6%	2%	2%	2%	11%	11%	11%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	12	0
Parking (#/hr)		10			10			10				
Adj. Flow (vph)	16	215	195	49	97	179	63	346	32	78	553	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	426	0	0	325	0	0	441	0	0	642	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	0.85	1.05	0.85	0.92	1.13	0.92	1.04	1.28	1.04	0.96	1.02	0.96
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		1			1			2			2	
Permitted Phases	1			1			2			2		
Minimum Split (s)	34.0	34.0		34.0	34.0		32.0	32.0		32.0	32.0	
Total Split (s)	35.0	35.0		35.0	35.0		33.0	33.0		33.0	33.0	
Total Split (%)	51.5%	51.5%		51.5%	51.5%		48.5%	48.5%		48.5%	48.5%	
Maximum Green (s)	30.0	30.0		30.0	30.0		28.0	28.0		28.0	28.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag	Lead	Lead		Lead	Lead		Lag	Lag		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)	15.0	15.0		15.0	15.0		15.0	15.0		15.0	15.0	
Flash Dont Walk (s)	14.0	14.0		14.0	14.0		12.0	12.0		12.0	12.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		30.0			30.0			28.0			28.0	
Actuated g/C Ratio		0.44			0.44			0.41			0.41	
v/c Ratio		0.61			0.59			0.86			1.04	
Control Delay		19.2			19.8			38.0			70.0	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		19.2			19.8			38.0			70.0	
LOS		B			B			D			E	
Approach Delay		19.2			19.8			38.0			70.0	
Approach LOS		B			B			D			E	
Queue Length 50th (ft)		130			98			162			~296	
Queue Length 95th (ft)		203			177			#289			#465	
Internal Link Dist (ft)		33			169			220			154	
Turn Bay Length (ft)												
Base Capacity (vph)		697			551			512			618	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.61			0.59			0.86			1.04	

Intersection Summary			
Area Type:	Other		
Cycle Length: 68			
Actuated Cycle Length: 68			
Offset: 0 (0%), Referenced to phase 1:EBWB, Start of Green			
Natural Cycle: 75			
Control Type: Pretimed			
Maximum v/c Ratio: 1.04			
Intersection Signal Delay: 41.6		Intersection LOS: D	
Intersection Capacity Utilization 85.6%		ICU Level of Service E	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 1: Buena Vista Avenue & Main Street



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	46	11	360	34	115	585
Future Volume (vph)	46	11	360	34	115	585
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	16	16	16	16
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.974		0.988			
Flt Protected	0.961					0.992
Satd. Flow (prot)	1419	0	1591	0	0	1996
Flt Permitted	0.961					0.992
Satd. Flow (perm)	1419	0	1591	0	0	1996
Link Speed (mph)	30		30			30
Link Distance (ft)	240		235			300
Travel Time (s)	5.5		5.3			6.8
Confl. Peds. (#/hr)	39			9	23	
Peak Hour Factor	0.91	0.91	0.82	0.82	0.87	0.87
Heavy Vehicles (%)	3%	3%	17%	17%	7%	7%
Parking (#/hr)	10		5			
Adj. Flow (vph)	51	12	439	41	132	672
Shared Lane Traffic (%)						
Lane Group Flow (vph)	63	0	480	0	0	804
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	11		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.28	1.04	1.01	0.85	0.85	0.85
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Stop			Stop

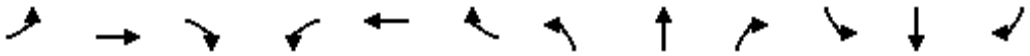
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 71.6%		ICU Level of Service C	
Analysis Period (min) 15			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	128	241	153	229	502	129
Future Volume (vph)	128	241	153	229	502	129
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	15	15	9	9	16	16
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt		0.850	0.919			
Flt Protected	0.950					0.962
Satd. Flow (prot)	1742	1558	1217	0	0	1954
Flt Permitted	0.950					0.962
Satd. Flow (perm)	1742	1558	1217	0	0	1954
Link Speed (mph)	30		30			30
Link Distance (ft)	256		433			284
Travel Time (s)	5.8		9.8			6.5
Confl. Peds. (#/hr)	40			9	27	
Peak Hour Factor	0.81	0.81	0.82	0.82	0.87	0.87
Heavy Vehicles (%)	14%	14%	13%	13%	6%	6%
Parking (#/hr)			5			
Adj. Flow (vph)	158	298	187	279	577	148
Shared Lane Traffic (%)						
Lane Group Flow (vph)	158	298	466	0	0	725
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	20		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	0.88	0.88	1.35	1.14	0.85	0.85
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Stop			Stop

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 74.3%		ICU Level of Service D	
Analysis Period (min) 15			

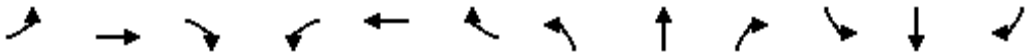
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	199	82	0	199	0	93	0	0	14	0	7
Future Volume (vph)	0	199	82	0	199	0	93	0	0	14	0	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	15	15	15	15	12	12	12	12	12	12	12
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.961									0.953	
Flt Protected							0.950				0.968	
Satd. Flow (prot)	0	1581	0	0	1676	0	1770	0	0	0	1718	0
Flt Permitted							0.950				0.968	
Satd. Flow (perm)	0	1581	0	0	1676	0	1770	0	0	0	1718	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		249			526			303			162	
Travel Time (s)		5.7			12.0			6.9			3.7	
Peak Hour Factor	0.92	0.86	0.86	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	8%	8%	6%	6%	2%	2%	2%	2%	2%	2%	2%
Parking (#/hr)		10			10							
Adj. Flow (vph)	0	231	95	0	216	0	101	0	0	15	0	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	326	0	0	216	0	101	0	0	0	23	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			12			12	
Link Offset(ft)		0			0			0			-50	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.09	0.88	0.88	1.09	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
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 29.2%		ICU Level of Service A	
Analysis Period (min) 15			

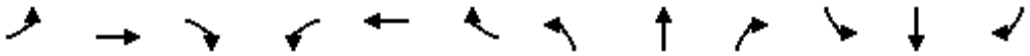


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	145	0	0	0	0	24	89	87	49	0	33
Future Volume (vph)	4	145	0	0	0	0	24	89	87	49	0	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	12	12	12	16	16	16	13	13	13
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt								0.941			0.945	
Flt Protected		0.999						0.994			0.971	
Satd. Flow (prot)	0	1460	0	0	0	0	0	1647	0	0	1766	0
Flt Permitted		0.999						0.994			0.971	
Satd. Flow (perm)	0	1460	0	0	0	0	0	1647	0	0	1766	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		240			538			516			303	
Travel Time (s)		5.5			12.2			11.7			6.9	
Confl. Peds. (#/hr)			33			35			16			38
Peak Hour Factor	0.85	0.85	0.85	0.92	0.92	0.92	0.83	0.83	0.83	0.90	0.90	0.90
Heavy Vehicles (%)	10%	10%	10%	2%	2%	2%	7%	7%	7%	2%	2%	2%
Parking (#/hr)		5						5				
Adj. Flow (vph)	5	171	0	0	0	0	29	107	105	54	0	37
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	176	0	0	0	0	0	241	0	0	91	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	1.04	1.24	1.04	1.00	1.00	1.00	0.85	1.01	0.85	0.96	0.96	0.96
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 36.6%		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)	19	259	27	49	326	51	32	260	93	106	258	26
Future Volume (vph)	19	259	27	49	326	51	32	260	93	106	258	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	9	13	13	16	16	16	9	11	11
Storage Length (ft)	0		0	60		0	0		0	100		0
Storage Lanes	0		0	1		0	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.988			0.980			0.967			0.986	
Flt Protected		0.997		0.950				0.996		0.950		
Satd. Flow (prot)	0	1377	0	1547	1832	0	0	1592	0	1577	1758	0
Flt Permitted		0.962		0.454				0.949		0.299		
Satd. Flow (perm)	0	1329	0	739	1832	0	0	1517	0	496	1758	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5			8			20			9	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		239			672			1367			278	
Travel Time (s)		5.4			15.3			31.1			6.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.82	0.82	0.82	0.92	0.92	0.92
Heavy Vehicles (%)	11%	11%	11%	5%	5%	5%	14%	14%	14%	3%	3%	3%
Parking (#/hr)		5						5				
Adj. Flow (vph)	21	282	29	53	354	55	39	317	113	115	280	28
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	332	0	53	409	0	0	469	0	115	308	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			9			0			9	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.09	1.29	1.09	1.14	0.96	0.96	0.85	1.01	0.85	1.14	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		2			6			8		7	4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		10.0	10.0		5.0	10.0	
Minimum Split (s)	32.0	32.0		32.0	32.0		32.0	32.0		10.0	32.0	
Total Split (s)	36.0	36.0		36.0	36.0		47.0	47.0		17.0	64.0	
Total Split (%)	36.0%	36.0%		36.0%	36.0%		47.0%	47.0%		17.0%	64.0%	
Maximum Green (s)	31.0	31.0		31.0	31.0		42.0	42.0		12.0	59.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)		5.0		5.0	5.0			5.0		5.0	5.0	
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?							Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Ped	Ped		C-Max	C-Max		Ped	Ped		Max	Ped	
Walk Time (s)	15.0	15.0		15.0	15.0		15.0	15.0			15.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		12.0	12.0			12.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0			0	
Act Effct Green (s)		37.6		37.6	37.6			35.4		52.4	52.4	
Actuated g/C Ratio		0.38		0.38	0.38			0.35		0.52	0.52	
v/c Ratio		0.66		0.19	0.59			0.85		0.30	0.33	
Control Delay		35.3		30.9	32.9			43.6		13.1	13.6	
Queue Delay		0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay		35.3		30.9	32.9			43.6		13.1	13.6	
LOS		D		C	C			D		B	B	
Approach Delay		35.3			32.7			43.6			13.4	
Approach LOS		D			C			D			B	
Queue Length 50th (ft)		174		22	174			258		35	102	
Queue Length 95th (ft)		#337		m30	m207			308		55	137	
Internal Link Dist (ft)		159			592			1287			198	
Turn Bay Length (ft)				60						100		
Base Capacity (vph)		502		277	693			648		389	1040	
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		0.66		0.19	0.59			0.72		0.30	0.30	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 0 (0%), Referenced to phase 6:WBTL, Start of Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.85			
Intersection Signal Delay: 31.4		Intersection LOS: C	

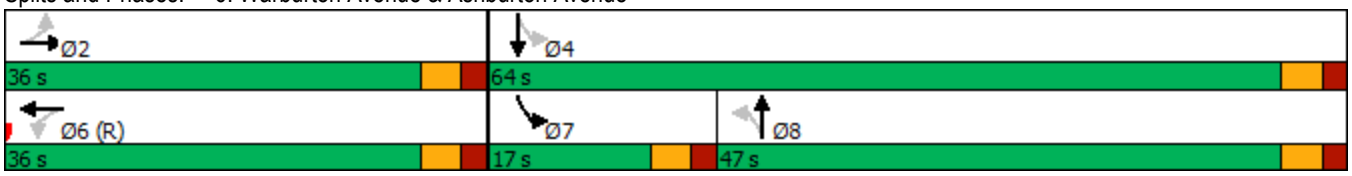
Intersection Capacity Utilization 79.8% ICU Level of Service D

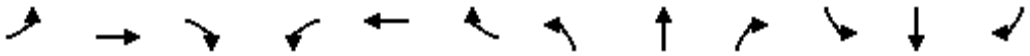
Analysis Period (min) 15

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

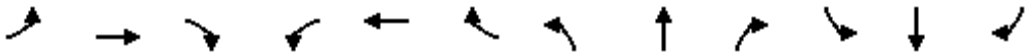
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Warburton Avenue & Ashburton Avenue





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	0	35	364	2	70	0	210	0	0	395	0
Future Volume (vph)	20	0	35	364	2	70	0	210	0	0	395	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	13	9	9	14	14	14	14	14	14
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		0.915			0.854							
Flt Protected		0.982		0.950								
Satd. Flow (prot)	0	1674	0	1600	1432	0	0	1689	0	0	1689	0
Flt Permitted		0.847		0.950								
Satd. Flow (perm)	0	1444	0	1600	1432	0	0	1689	0	0	1689	0
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)		81										
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		49			114			382			1367	
Travel Time (s)		1.1			2.6			8.7			31.1	
Peak Hour Factor	0.81	0.81	0.81	0.94	0.94	0.94	0.82	0.82	0.82	0.97	0.97	0.97
Parking (#/hr)				5		5		10			10	
Adj. Flow (vph)	25	0	43	387	2	74	0	256	0	0	407	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	68	0	387	76	0	0	256	0	0	407	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)		13			13			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	1.14	1.14	1.14	0.92	1.13	0.92	0.92	1.13	0.92
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2			2			2	
Detector Template	Left	Thru		Left	Thru			Thru			Thru	
Leading Detector (ft)	20	100		20	100			100			100	
Trailing Detector (ft)	0	0		0	0			0			0	
Detector 1 Position(ft)	0	0		0	0			0			0	
Detector 1 Size(ft)	20	6		20	6			6			6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex			Cl+Ex			Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Split	NA			NA			NA	
Protected Phases		4		3	3			2			2	
Permitted Phases	4											
Detector Phase	4	4		3	3			2			2	

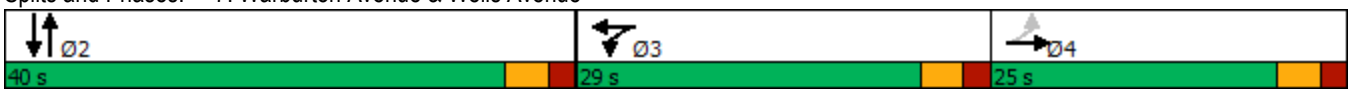


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Minimum Split (s)	24.0	24.0		28.0	28.0			39.0			39.0	
Total Split (s)	25.0	25.0		29.0	29.0			40.0			40.0	
Total Split (%)	26.6%	26.6%		30.9%	30.9%			42.6%			42.6%	
Maximum Green (s)	20.0	20.0		24.0	24.0			35.0			35.0	
Yellow Time (s)	3.0	3.0		3.0	3.0			3.0			3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0			2.0			2.0	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0			0.0	
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	None	None		Ped	Ped			Ped			Ped	
Walk Time (s)	7.0	7.0		11.0	11.0			24.0			24.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0			10.0			10.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)		6.2		23.9	23.9			34.3			34.3	
Actuated g/C Ratio		0.08		0.31	0.31			0.45			0.45	
v/c Ratio		0.36		0.78	0.17			0.34			0.54	
Control Delay		12.5		38.4	22.1			16.6			20.0	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		12.5		38.4	22.1			16.6			20.0	
LOS		B		D	C			B			B	
Approach Delay		12.5			35.7			16.6			20.0	
Approach LOS		B			D			B			B	
Queue Length 50th (ft)		0		172	27			81			143	
Queue Length 95th (ft)		23		#333	62			128			243	
Internal Link Dist (ft)		1			34			302			1287	
Turn Bay Length (ft)												
Base Capacity (vph)		436		501	448			771			771	
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		0.16		0.77	0.17			0.33			0.53	

Intersection Summary			
Area Type:	Other		
Cycle Length: 94			
Actuated Cycle Length: 77			
Natural Cycle: 95			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.78			
Intersection Signal Delay: 24.9		Intersection LOS: C	
Intersection Capacity Utilization 56.0%		ICU Level of Service B	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 7: Warburton Avenue & Wells Avenue



Lane Group	NBL	NBT	NBR	SBL	SBT	SBR2	NEL2	NEL	NER	NER2	Ø9
Lane Configurations											
Traffic Volume (vph)	150	192	168	27	680	87	17	18	38	45	
Future Volume (vph)	150	192	168	27	680	87	17	18	38	45	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	16	16	12	12	16	12	12	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Ped Bike Factor		0.91						0.80			
Frt		0.930			0.985			0.905			
Flt Protected	0.950				0.998			0.985			
Satd. Flow (prot)	1703	1284	0	0	1917	0	0	1316	0	0	
Flt Permitted	0.274				0.976			0.985			
Satd. Flow (perm)	491	1284	0	0	1875	0	0	1316	0	0	
Right Turn on Red			Yes			Yes				Yes	
Satd. Flow (RTOR)		54			84			84			
Link Speed (mph)		30			30			30			
Link Distance (ft)		431			382			174			
Travel Time (s)		9.8			8.7			4.0			
Confl. Peds. (#/hr)			134						89		
Peak Hour Factor	0.94	0.94	0.94	0.93	0.93	0.93	0.81	0.81	0.81	0.81	
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%	2%	2%	2%	2%	
Bus Blockages (#/hr)	0	0	0	0	10	0	0	0	0	0	
Parking (#/hr)		10						5			
Adj. Flow (vph)	160	204	179	29	731	94	21	22	47	56	
Shared Lane Traffic (%)											
Lane Group Flow (vph)	160	383	0	0	854	0	0	146	0	0	
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Right	
Median Width(ft)		12			0			16			
Link Offset(ft)		0			0			80			
Crosswalk Width(ft)		16			16			16			
Two way Left Turn Lane											
Headway Factor	1.00	1.23	1.00	0.85	0.89	1.00	1.00	1.01	1.00	1.00	
Turning Speed (mph)	15		9	15		9	15	15	9	9	
Number of Detectors	1	2		1	2		1	1			
Detector Template	Left	Thru		Left	Thru		Left	Left			
Leading Detector (ft)	20	100		20	100		20	20			
Trailing Detector (ft)	0	0		0	0		0	0			
Detector 1 Position(ft)	0	0		0	0		0	0			
Detector 1 Size(ft)	20	6		20	6		20	20			
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex			
Detector 1 Channel											
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0			
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0			
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0			
Detector 2 Position(ft)		94			94						
Detector 2 Size(ft)		6			6						
Detector 2 Type		Cl+Ex			Cl+Ex						
Detector 2 Channel											
Detector 2 Extend (s)		0.0			0.0						

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR2	NEL2	NEL	NER	NER2	Ø9
Turn Type	Perm	NA		Perm	NA		Perm	Prot			
Protected Phases		3			3			1			9
Permitted Phases	3			3			1				
Detector Phase	3	3		3	3		1	1			
Switch Phase											
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0			5.0
Minimum Split (s)	13.0	13.0		13.0	13.0		13.0	13.0			27.0
Total Split (s)	41.0	41.0		41.0	41.0		23.0	23.0			27.0
Total Split (%)	45.1%	45.1%		45.1%	45.1%		25.3%	25.3%			30%
Maximum Green (s)	33.0	33.0		33.0	33.0		15.0	15.0			25.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0			2.0
All-Red Time (s)	4.0	4.0		4.0	4.0		4.0	4.0			0.0
Lost Time Adjust (s)	0.0	0.0			0.0			0.0			
Total Lost Time (s)	8.0	8.0			8.0			8.0			
Lead/Lag											
Lead-Lag Optimize?											
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0			3.0
Recall Mode	Max	Max		Max	Max		Max	Max			None
Walk Time (s)											10.0
Flash Dont Walk (s)											15.0
Pedestrian Calls (#/hr)											5
Act Effct Green (s)	33.7	33.7			33.7			15.3			
Actuated g/C Ratio	0.49	0.49			0.49			0.22			
v/c Ratio	0.67	0.59			0.90			0.41			
Control Delay	34.8	18.1			30.9			16.9			
Queue Delay	0.0	0.0			25.6			0.0			
Total Delay	34.8	18.1			56.5			16.9			
LOS	C	B			E			B			
Approach Delay		23.0			56.5			16.9			
Approach LOS		C			E			B			
Queue Length 50th (ft)	41	78			239			19			
Queue Length 95th (ft)	#209	#314			#789			75			
Internal Link Dist (ft)		351			302			94			
Turn Bay Length (ft)											
Base Capacity (vph)	238	650			952			355			
Starvation Cap Reductn	0	0			134			0			
Spillback Cap Reductn	0	0			0			0			
Storage Cap Reductn	0	0			0			0			
Reduced v/c Ratio	0.67	0.59			1.04			0.41			

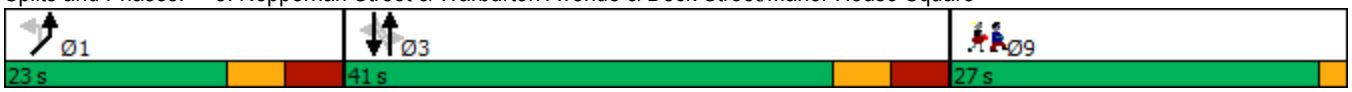
Intersection Summary			
Area Type:	Other		
Cycle Length: 91			
Actuated Cycle Length: 69.4			
Natural Cycle: 90			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.90			
Intersection Signal Delay: 41.0		Intersection LOS: D	
Intersection Capacity Utilization 97.9%		ICU Level of Service F	

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 8: Nepperhan Street & Warburton Avenue & Dock Street/Manor House Square



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	106	0	107	217	111	147	41	257	0	0	678	47
Future Volume (vph)	106	0	107	217	111	147	41	257	0	0	678	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	16	16	16	13	15	15	9	13	13	12	12	12
Storage Length (ft)	0		0	0		0	75		0	0		0
Storage Lanes	0		0	1		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Ped Bike Factor		0.95			0.94						0.99	
Frt		0.932			0.915						0.990	
Flt Protected		0.976		0.950			0.950					
Satd. Flow (prot)	0	1371	0	1711	1397	0	1477	3141	0	0	3027	0
Flt Permitted		0.509		0.578			0.235					
Satd. Flow (perm)	0	715	0	1041	1397	0	365	3141	0	0	3027	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		98			70						8	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		526			497			325			431	
Travel Time (s)		12.0			11.3			7.4			9.8	
Confl. Peds. (#/hr)			82			104			126			103
Peak Hour Factor	0.82	0.82	0.82	0.83	0.83	0.83	0.98	0.98	0.98	0.91	0.91	0.91
Heavy Vehicles (%)	16%	16%	16%	9%	9%	9%	10%	10%	10%	8%	8%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	6	0	0	0	0
Parking (#/hr)		10			10			5			10	
Adj. Flow (vph)	129	0	130	261	134	177	42	262	0	0	745	52
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	259	0	261	311	0	42	262	0	0	797	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			13			12			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.85	1.05	0.85	0.96	1.09	0.88	1.14	1.06	0.96	1.00	1.11	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2			2	
Detector Template	Left	Thru		Left	Thru		Left	Thru			Thru	
Leading Detector (ft)	20	100		20	100		20	100			100	
Trailing Detector (ft)	0	0		0	0		0	0			0	
Detector 1 Position(ft)	0	0		0	0		0	0			0	
Detector 1 Size(ft)	20	6		20	6		20	6			6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex			Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	

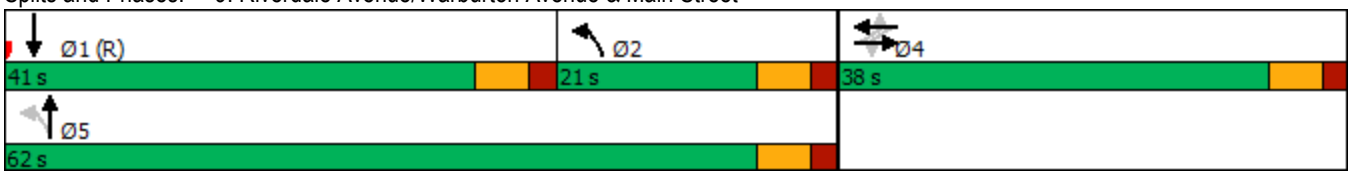
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA			NA	
Protected Phases		4			4		2	5			1	
Permitted Phases	4			4			5					
Detector Phase	4	4		4	4		2	5			1	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0			5.0	
Minimum Split (s)	37.0	37.0		37.0	37.0		11.0	11.0			40.0	
Total Split (s)	38.0	38.0		38.0	38.0		21.0	62.0			41.0	
Total Split (%)	38.0%	38.0%		38.0%	38.0%		21.0%	62.0%			41.0%	
Maximum Green (s)	32.0	32.0		32.0	32.0		15.0	56.0			35.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0			2.0	
Lost Time Adjust (s)		0.0		0.0	0.0		0.0	0.0			0.0	
Total Lost Time (s)		6.0		6.0	6.0		6.0	6.0			6.0	
Lead/Lag							Lag				Lead	
Lead-Lag Optimize?							Yes				Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0			3.0	
Recall Mode	Ped	Ped		Ped	Ped		Max	Max			C-Max	
Walk Time (s)	10.0	10.0		10.0	10.0						18.0	
Flash Dont Walk (s)	21.0	21.0		21.0	21.0						16.0	
Pedestrian Calls (#/hr)	0	0		0	0						0	
Act Effct Green (s)		31.6		31.6	31.6		56.4	56.4			35.4	
Actuated g/C Ratio		0.32		0.32	0.32		0.56	0.56			0.35	
v/c Ratio		0.88		0.79	0.64		0.11	0.15			0.74	
Control Delay		52.2		50.5	29.1		12.5	10.7			33.1	
Queue Delay		0.0		0.0	0.0		0.0	0.0			0.3	
Total Delay		52.2		50.5	29.1		12.5	10.7			33.4	
LOS		D		D	C		B	B			C	
Approach Delay		52.2			38.9			11.0			33.4	
Approach LOS		D			D			B			C	
Queue Length 50th (ft)		102		150	130		11	40			230	
Queue Length 95th (ft)		#216		#243	197		27	60			304	
Internal Link Dist (ft)		446			417			245			351	
Turn Bay Length (ft)							75					
Base Capacity (vph)		295		333	494		372	1771			1076	
Starvation Cap Reductn		0		0	0		0	0			36	
Spillback Cap Reductn		0		0	0		0	0			0	
Storage Cap Reductn		0		0	0		0	0			0	
Reduced v/c Ratio		0.88		0.78	0.63		0.11	0.15			0.77	

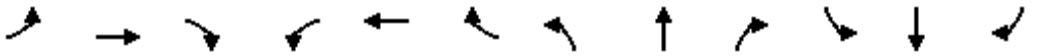
Intersection Summary	
Area Type:	Other
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 0 (0%), Referenced to phase 1:SBT, Start of Green	
Natural Cycle: 90	

Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.88	
Intersection Signal Delay: 34.0	Intersection LOS: C
Intersection Capacity Utilization 100.7%	ICU Level of Service G
Analysis Period (min) 15	

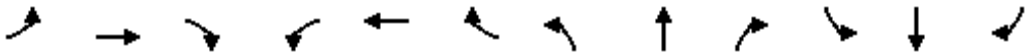
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 9: Riverdale Avenue/Warburton Avenue & Main Street





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	168	84	0	0	0	0	269	221	298	704	0
Future Volume (vph)	29	168	84	0	0	0	0	269	221	298	704	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	16	16	16	12	12	12	11	11	11	9	12	12
Storage Length (ft)	0		0	0		0	0		0	125		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Ped Bike Factor		0.93						0.85				
Frt		0.960						0.932				
Flt Protected		0.995								0.950		
Satd. Flow (prot)	0	1547	0	0	0	0	0	2457	0	1533	3087	0
Flt Permitted		0.995								0.419		
Satd. Flow (perm)	0	1547	0	0	0	0	0	2457	0	676	3087	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		21						166				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		538			379			525			325	
Travel Time (s)		12.2			8.6			11.9			7.4	
Confl. Peds. (#/hr)			178			100			148			55
Peak Hour Factor	0.85	0.85	0.85	0.92	0.92	0.92	0.94	0.94	0.94	0.93	0.93	0.93
Heavy Vehicles (%)	5%	5%	5%	2%	2%	2%	11%	11%	11%	6%	6%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	7	0	0	10	0
Parking (#/hr)		10									10	
Adj. Flow (vph)	34	198	99	0	0	0	0	286	235	320	757	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	331	0	0	0	0	0	521	0	320	757	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			8			8	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.85	1.05	0.85	1.00	1.00	1.00	1.04	1.06	1.04	1.14	1.13	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2						2		1	2	
Detector Template	Left	Thru						Thru		Left	Thru	
Leading Detector (ft)	20	100						100		20	100	
Trailing Detector (ft)	0	0						0		0	0	
Detector 1 Position(ft)	0	0						0		0	0	
Detector 1 Size(ft)	20	6						6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex						Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0						0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0						0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0						0.0		0.0	0.0	
Detector 2 Position(ft)		94						94			94	
Detector 2 Size(ft)		6						6			6	

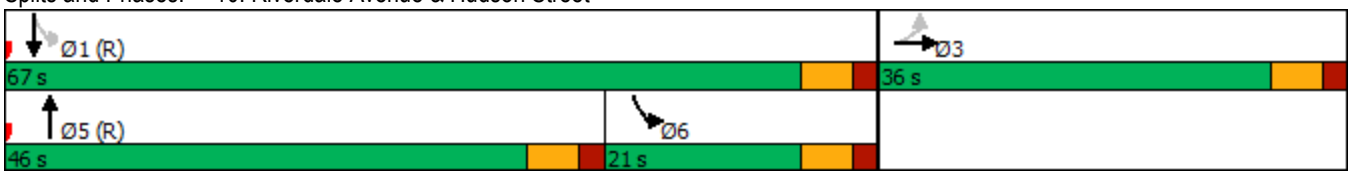


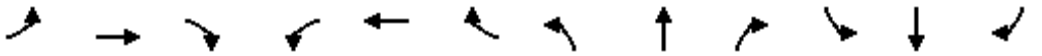
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Type		Cl+Ex						Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0						0.0			0.0	
Turn Type	Perm	NA						NA		pm+pt	NA	
Protected Phases		3						5		6	1	
Permitted Phases	3									1		
Detector Phase	3	3						5		6	1	
Switch Phase												
Minimum Initial (s)	10.0	10.0						5.0		10.0	5.0	
Minimum Split (s)	30.0	30.0						30.0		16.0	30.0	
Total Split (s)	36.0	36.0						46.0		21.0	67.0	
Total Split (%)	35.0%	35.0%						44.7%		20.4%	65.0%	
Maximum Green (s)	30.0	30.0						40.0		15.0	61.0	
Yellow Time (s)	4.0	4.0						4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0						2.0		2.0	2.0	
Lost Time Adjust (s)		0.0						0.0		0.0	0.0	
Total Lost Time (s)		6.0						6.0		6.0	6.0	
Lead/Lag								Lead		Lag		
Lead-Lag Optimize?								Yes		Yes		
Vehicle Extension (s)	3.0	3.0						3.0		3.0	3.0	
Recall Mode	None	None						C-Max		Max	C-Max	
Walk Time (s)	10.0	10.0						10.0			10.0	
Flash Dont Walk (s)	14.0	14.0						14.0			14.0	
Pedestrian Calls (#/hr)	0	0						0			0	
Act Effct Green (s)		25.0						45.0		66.0	66.0	
Actuated g/C Ratio		0.24						0.44		0.64	0.64	
v/c Ratio		0.85						0.45		0.57	0.38	
Control Delay		54.0						15.6		20.1	10.2	
Queue Delay		0.0						0.0		4.7	1.2	
Total Delay		54.0						15.6		24.8	11.4	
LOS		D						B		C	B	
Approach Delay		54.0						15.6			15.4	
Approach LOS		D						B			B	
Queue Length 50th (ft)		193						82		90	117	
Queue Length 95th (ft)		264						138		157	173	
Internal Link Dist (ft)		458			299			445			245	
Turn Bay Length (ft)										125		
Base Capacity (vph)		465						1166		557	1977	
Starvation Cap Reductn		0						0		168	936	
Spillback Cap Reductn		0						0		0	0	
Storage Cap Reductn		0						0		0	0	
Reduced v/c Ratio		0.71						0.45		0.82	0.73	

Intersection Summary	
Area Type:	Other
Cycle Length: 103	
Actuated Cycle Length: 103	
Offset: 0 (0%), Referenced to phase 1:SBTL and 5:NBT, Start of Green	
Natural Cycle: 80	

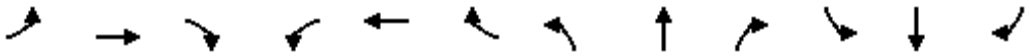
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.85	
Intersection Signal Delay: 22.1	Intersection LOS: C
Intersection Capacity Utilization 76.0%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 10: Riverdale Avenue & Hudson Street





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	495	108	397	705	138	131	340	340	252	485	45
Future Volume (vph)	12	495	108	397	705	138	131	340	340	252	485	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	16	16	16	12	12	12	10	11	11	10	11	11
Storage Length (ft)	0		0	160		0	100		0	155		0
Storage Lanes	0		0	1		1	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Ped Bike Factor		0.96				0.89		0.96				0.94
Frt		0.974				0.850		0.925				0.850
Flt Protected		0.999		0.950			0.950			0.950		
Satd. Flow (prot)	0	3697	0	1719	1845	1379	1685	2791	0	1574	3388	1531
Flt Permitted		0.681		0.259			0.182			0.371		
Satd. Flow (perm)	0	2520	0	469	1845	1234	323	2791	0	615	3388	1439
Right Turn on Red			Yes			Yes			No			Yes
Satd. Flow (RTOR)		23				122						149
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		511			403			1044			525	
Travel Time (s)		11.6			9.2			23.7			11.9	
Confl. Peds. (#/hr)			193			95			64			49
Peak Hour Factor	0.90	0.90	0.90	0.92	0.92	0.92	0.92	0.92	0.92	0.93	0.93	0.93
Heavy Vehicles (%)	27%	3%	3%	5%	3%	12%	0%	3%	3%	7%	3%	2%
Bus Blockages (#/hr)	0	2	0	0	0	11	0	0	0	0	0	0
Parking (#/hr)								10				
Adj. Flow (vph)	13	550	120	432	766	150	142	370	370	271	522	48
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	683	0	432	766	150	142	740	0	271	522	48
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			10			16	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.85	0.85	0.85	1.00	1.00	1.06	1.09	1.15	1.04	1.09	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	Perm
Protected Phases		7		8	3	6	1	5		6	2	
Permitted Phases	7			3		3	5			2		2
Detector Phase	7	7		8	3	6	1	5		6	2	2
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	39.0	39.0		11.0	39.0	11.0	11.0	39.0		11.0	39.0	39.0
Total Split (s)	39.0	39.0		16.0	55.0	16.0	16.0	39.0		16.0	39.0	39.0
Total Split (%)	35.5%	35.5%		14.5%	50.0%	14.5%	14.5%	35.5%		14.5%	35.5%	35.5%
Maximum Green (s)	33.0	33.0		10.0	49.0	10.0	10.0	33.0		10.0	33.0	33.0
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
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)		0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)		6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0
Lead/Lag	Lead	Lead		Lag		Lag	Lead	Lead		Lag	Lag	Lag
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	3.0
Recall Mode	Ped	Ped		Max	C-Max	Max	Max	Ped		Max	Ped	Ped
Walk Time (s)	7.0	7.0			7.0			15.0			15.0	15.0
Flash Dont Walk (s)	26.0	26.0			26.0			18.0			18.0	18.0
Pedestrian Calls (#/hr)	0	0			0			0			0	0
Act Effct Green (s)		33.0		49.0	49.0	59.0	33.0	33.0		33.0	33.0	33.0
Actuated g/C Ratio		0.30		0.45	0.45	0.54	0.30	0.30		0.30	0.30	0.30
v/c Ratio		0.88		1.34	0.93	0.21	0.65	0.99dr		1.00	0.51	0.09
Control Delay		50.2		189.6	27.0	0.9	55.4	57.5		97.9	34.0	0.3
Queue Delay		0.2		0.0	1.5	0.0	0.0	28.2		59.6	0.0	0.0
Total Delay		50.4		189.6	28.4	0.9	55.4	85.7		157.6	34.0	0.3
LOS		D		F	C	A	E	F		F	C	A
Approach Delay		50.4			77.0			80.8			71.9	
Approach LOS		D			E			F			E	
Queue Length 50th (ft)		234		~268	227	2	80	240		162	160	0
Queue Length 95th (ft)		#343		m#549	#751	m2	m#162	#385		#364	214	0
Internal Link Dist (ft)		431			323			964			445	
Turn Bay Length (ft)				160			100			155		
Base Capacity (vph)		772		322	821	731	220	837		271	1016	536
Starvation Cap Reductn		0		0	13	0	0	0		0	0	0
Spillback Cap Reductn		4		0	0	0	0	131		204	0	0
Storage Cap Reductn		0		0	0	0	0	0		0	0	0
Reduced v/c Ratio		0.89		1.34	0.95	0.21	0.65	1.05		4.04	0.51	0.09

Intersection Summary	
Area Type:	Other
Cycle Length: 110	
Actuated Cycle Length: 110	
Offset: 25 (23%), Referenced to phase 3:WBTL, Start of Green	
Natural Cycle: 110	

Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.34	
Intersection Signal Delay: 71.9	Intersection LOS: E
Intersection Capacity Utilization 126.1%	ICU Level of Service H
Analysis Period (min) 15	

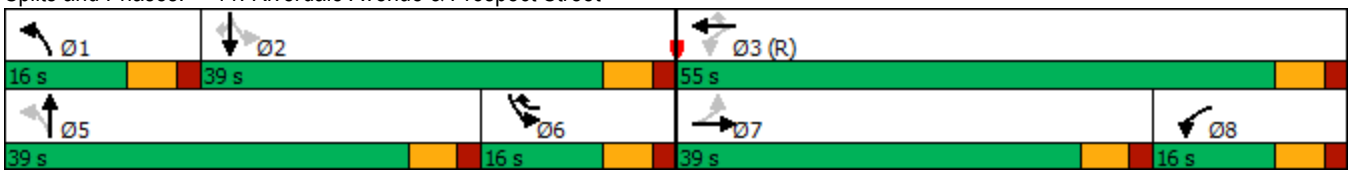
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

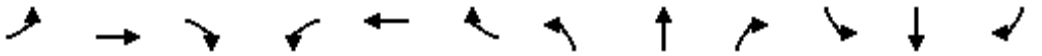
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

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

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

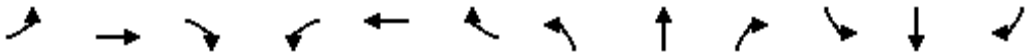
Splits and Phases: 11: Riverdale Avenue & Prospect Street





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	96	40	23	35	79	42	35	673	91	171	755	64
Future Volume (vph)	96	40	23	35	79	42	35	673	91	171	755	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	13	13	16	16	16	9	12	12	10	13	13
Storage Length (ft)	0		0	0		0	165		0	125		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.980			0.963			0.982			0.988	
Flt Protected		0.971			0.989		0.950			0.950		
Satd. Flow (prot)	0	1832	0	0	1759	0	1593	3239	0	1652	3342	0
Flt Permitted		0.636			0.894		0.237			0.263		
Satd. Flow (perm)	0	1200	0	0	1590	0	397	3239	0	457	3342	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			15			14			8	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		236			1171			350			1044	
Travel Time (s)		5.4			26.6			8.0			23.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Bus Blockages (#/hr)	0	0	0	0	0	0	0	3	0	0	0	0
Parking (#/hr)					5			5			10	
Adj. Flow (vph)	104	43	25	38	86	46	38	732	99	186	821	70
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	172	0	0	170	0	38	831	0	186	891	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			10			10	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.96	0.96	0.96	0.85	1.01	0.85	1.14	1.10	1.00	1.09	1.06	0.96
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	Ø3
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Bus Blockages (#/hr)	
Parking (#/hr)	
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)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			4		2	5		6	1	
Permitted Phases	4			4			5			1		
Detector Phase	4	4		4	4		2	5		6	1	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Total Split (s)	28.0	28.0		28.0	28.0		15.0	40.0		15.0	40.0	
Total Split (%)	25.5%	25.5%		25.5%	25.5%		13.6%	36.4%		13.6%	36.4%	
Maximum Green (s)	22.0	22.0		22.0	22.0		9.0	34.0		9.0	34.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0			6.0		6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lead		Lead	Lead		Lag	Lead		Lag	Lead	
Lead-Lag Optimize?	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	
Recall Mode	Max	Max		Max	Max		Max	C-Max		Max	C-Max	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)		22.0			22.0		65.2	56.2		65.2	56.2	
Actuated g/C Ratio		0.20			0.20		0.59	0.51		0.59	0.51	
v/c Ratio		0.70			0.52		0.11	0.50		0.51	0.52	
Control Delay		55.9			42.0		12.4	20.5		19.8	14.0	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		55.9			42.0		12.4	20.5		19.8	14.0	
LOS		E			D		B	C		B	B	
Approach Delay		55.9			42.0			20.1			15.0	
Approach LOS		E			D			C			B	
Queue Length 50th (ft)		109			98		8	172		39	125	
Queue Length 95th (ft)		#207			169		33	344		m85	m196	
Internal Link Dist (ft)		156			1091			270			964	
Turn Bay Length (ft)							165			125		
Base Capacity (vph)		245			330		333	1661		368	1711	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.70			0.52		0.11	0.50		0.51	0.52	

Intersection Summary	
Area Type:	Other
Cycle Length: 110	
Actuated Cycle Length: 110	
Offset: 0 (0%), Referenced to phase 1:SBTL and 5:NBTL, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.70	
Intersection Signal Delay: 22.0	Intersection LOS: C

Lane Group	Ø3
Turn Type	
Protected Phases	3
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	5.0
Minimum Split (s)	24.0
Total Split (s)	27.0
Total Split (%)	25%
Maximum Green (s)	24.0
Yellow Time (s)	3.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	Lag
Lead-Lag Optimize?	Yes
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	6.0
Flash Dont Walk (s)	15.0
Pedestrian Calls (#/hr)	5
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

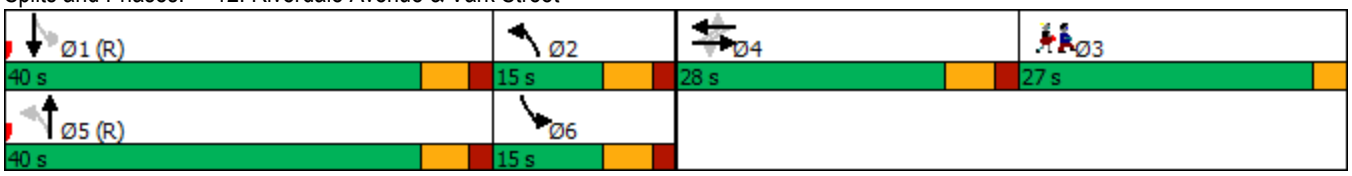
Intersection Capacity Utilization 66.2% ICU Level of Service C

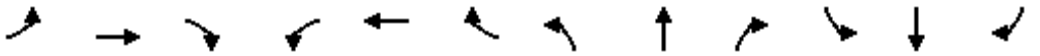
Analysis Period (min) 15

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

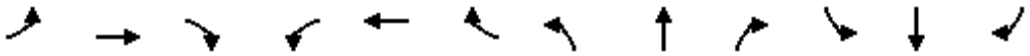
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 12: Riverdale Avenue & Vark Street





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	393	15	102	345	108	13	210	140	159	175	68
Future Volume (vph)	50	393	15	102	345	108	13	210	140	159	175	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	14	14	14	16	16	16	10	13	13
Storage Length (ft)	0		0	0		0	0		0	80		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.996			0.974			0.948			0.958	
Flt Protected		0.995			0.991			0.998		0.950		
Satd. Flow (prot)	0	1508	0	0	1863	0	0	1894	0	1620	1809	0
Flt Permitted		0.886			0.777			0.985		0.266		
Satd. Flow (perm)	0	1342	0	0	1461	0	0	1869	0	454	1809	0
Right Turn on Red			Yes			Yes			No			Yes
Satd. Flow (RTOR)		2			15						27	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		672			208			1727			316	
Travel Time (s)		15.3			4.7			39.3			7.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	5%	5%	5%	5%	5%	5%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	6	0	0	0	0
Parking (#/hr)		5										
Adj. Flow (vph)	54	427	16	111	375	117	14	228	152	173	190	74
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	497	0	0	603	0	0	394	0	173	264	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			10	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.09	1.29	1.09	0.92	0.92	0.92	0.85	0.88	0.85	1.09	0.96	0.96
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												



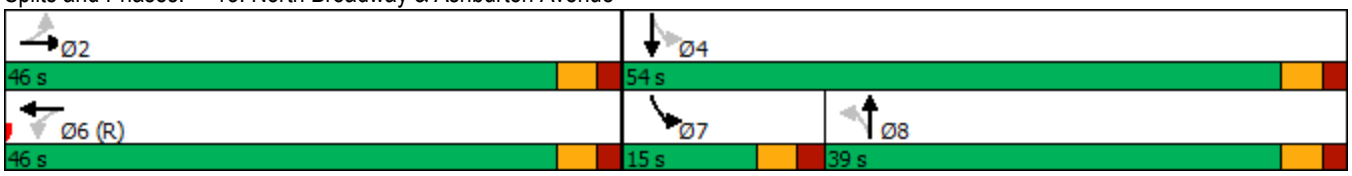
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		2			6			8		7	4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		10.0	10.0		5.0	10.0	
Minimum Split (s)	10.0	10.0		32.0	32.0		32.0	32.0		10.0	32.0	
Total Split (s)	46.0	46.0		46.0	46.0		39.0	39.0		15.0	54.0	
Total Split (%)	46.0%	46.0%		46.0%	46.0%		39.0%	39.0%		15.0%	54.0%	
Maximum Green (s)	41.0	41.0		41.0	41.0		34.0	34.0		10.0	49.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0		0.0	0.0	
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	3.0		3.0	3.0	
Recall Mode	Max	Max		C-Max	C-Max		Ped	Ped		Max	Ped	
Walk Time (s)				15.0	15.0		15.0	15.0			15.0	
Flash Dont Walk (s)				12.0	12.0		12.0	12.0			12.0	
Pedestrian Calls (#/hr)				0	0		0	0			0	
Act Effct Green (s)		46.1			46.1			28.9		43.9	43.9	
Actuated g/C Ratio		0.46			0.46			0.29		0.44	0.44	
v/c Ratio		0.80			0.89			0.73		0.55	0.33	
Control Delay		28.1			29.8			40.4		24.0	17.2	
Queue Delay		0.0			0.0			0.0		0.0	0.0	
Total Delay		28.1			29.8			40.4		24.0	17.2	
LOS		C			C			D		C	B	
Approach Delay		28.1			29.8			40.4			19.9	
Approach LOS		C			C			D			B	
Queue Length 50th (ft)		166			119			232		70	99	
Queue Length 95th (ft)		#481			#593			309		103	139	
Internal Link Dist (ft)		592			128			1647			236	
Turn Bay Length (ft)										80		
Base Capacity (vph)		619			681			635		316	900	
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		0.80			0.89			0.62		0.55	0.29	

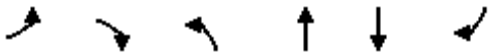
Intersection Summary	
Area Type:	Other
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 97 (97%), Referenced to phase 6:WBTL, Start of Green	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.89	

Intersection Signal Delay: 29.3	Intersection LOS: C
Intersection Capacity Utilization 94.9%	ICU Level of Service F
Analysis Period (min) 15	

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

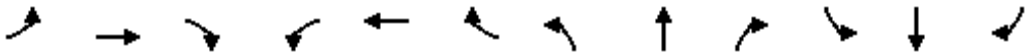
Splits and Phases: 13: North Broadway & Ashburton Avenue





Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	233	0	0	389	0	0
Future Volume (vph)	233	0	0	389	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	16	16	16	16	16	16
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected	0.950					
Satd. Flow (prot)	1705	0	0	1794	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	1705	0	0	1794	0	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	226			563	1727	
Travel Time (s)	5.1			12.8	39.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Parking (#/hr)	10			10		
Adj. Flow (vph)	253	0	0	423	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	253	0	0	423	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	16			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.05	0.85	0.85	1.05	0.85	0.85
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	40.0%	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)	0	0	0	0	362	107	113	282	0	0	0	0
Future Volume (vph)	0	0	0	0	362	107	113	282	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	16	16	16	16	16	12	12	12
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					0.969							
Flt Protected								0.986				
Satd. Flow (prot)	0	0	0	0	2046	0	0	2082	0	0	0	0
Flt Permitted								0.986				
Satd. Flow (perm)	0	0	0	0	2046	0	0	2082	0	0	0	0
Right Turn on Red			Yes			Yes	Yes		Yes			Yes
Satd. Flow (RTOR)					21			73				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		497			81			184			563	
Travel Time (s)		11.3			1.8			4.2			12.8	
Peak Hour Factor	0.92	0.92	0.92	0.83	0.83	0.83	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	436	129	123	307	0	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	565	0	0	430	0	0	0	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	0.85	0.85	0.85	0.85	0.85	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors					2		1	2				
Detector Template					Thru		Left	Thru				
Leading Detector (ft)					100		20	100				
Trailing Detector (ft)					0		0	0				
Detector 1 Position(ft)					0		0	0				
Detector 1 Size(ft)					6		20	6				
Detector 1 Type					Cl+Ex		Cl+Ex	Cl+Ex				
Detector 1 Channel												
Detector 1 Extend (s)					0.0		0.0	0.0				
Detector 1 Queue (s)					0.0		0.0	0.0				
Detector 1 Delay (s)					0.0		0.0	0.0				
Detector 2 Position(ft)					94			94				
Detector 2 Size(ft)					6			6				
Detector 2 Type					Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0				
Turn Type					NA		Perm	NA				
Protected Phases					2 6			3				
Permitted Phases							3					
Detector Phase					2 6		3	3				
Switch Phase												

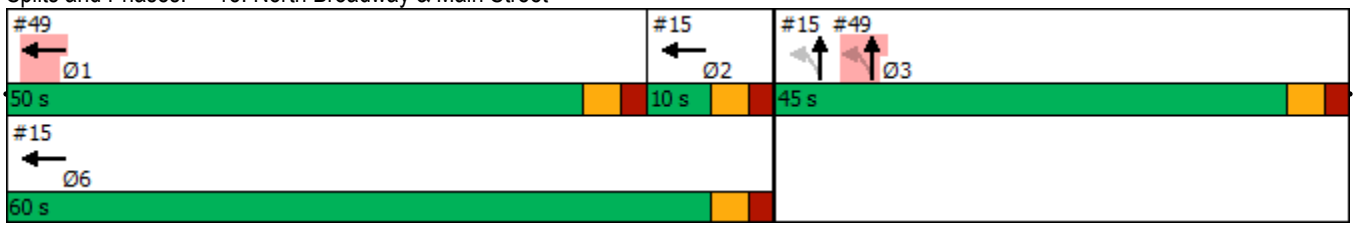
Lane Group	Ø1	Ø2	Ø6
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Lane Width (ft)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
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)			
Number of Detectors			
Detector Template			
Leading Detector (ft)			
Trailing Detector (ft)			
Detector 1 Position(ft)			
Detector 1 Size(ft)			
Detector 1 Type			
Detector 1 Channel			
Detector 1 Extend (s)			
Detector 1 Queue (s)			
Detector 1 Delay (s)			
Detector 2 Position(ft)			
Detector 2 Size(ft)			
Detector 2 Type			
Detector 2 Channel			
Detector 2 Extend (s)			
Turn Type			
Protected Phases	1	2	6
Permitted Phases			
Detector Phase			
Switch Phase			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)							5.0	5.0				
Minimum Split (s)							45.0	45.0				
Total Split (s)							45.0	45.0				
Total Split (%)							42.9%	42.9%				
Maximum Green (s)							40.0	40.0				
Yellow Time (s)							3.0	3.0				
All-Red Time (s)							2.0	2.0				
Lost Time Adjust (s)								0.0				
Total Lost Time (s)								5.0				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)							3.0	3.0				
Recall Mode							Ped	Ped				
Walk Time (s)							30.0	30.0				
Flash Dont Walk (s)							10.0	10.0				
Pedestrian Calls (#/hr)							0	0				
Act Effct Green (s)					55.0			40.0				
Actuated g/C Ratio					0.52			0.38				
v/c Ratio					0.52			0.51				
Control Delay					2.1			23.0				
Queue Delay					0.0			0.0				
Total Delay					2.1			23.0				
LOS					A			C				
Approach Delay					2.1			23.0				
Approach LOS					A			C				
Queue Length 50th (ft)					11			181				
Queue Length 95th (ft)					14			274				
Internal Link Dist (ft)		417			1			104			483	
Turn Bay Length (ft)												
Base Capacity (vph)					1081			838				
Starvation Cap Reductn					0			0				
Spillback Cap Reductn					0			0				
Storage Cap Reductn					0			0				
Reduced v/c Ratio					0.52			0.51				

Intersection Summary

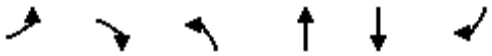
Area Type: Other
Cycle Length: 105
Actuated Cycle Length: 105
Natural Cycle: 105
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.74
Intersection Signal Delay: 11.1 Intersection LOS: B
Intersection Capacity Utilization 55.0% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 15: North Broadway & Main Street



Lane Group	Ø1	Ø2	Ø6
Minimum Initial (s)	5.0	2.0	5.0
Minimum Split (s)	50.0	7.0	10.0
Total Split (s)	50.0	10.0	60.0
Total Split (%)	48%	10%	57%
Maximum Green (s)	45.0	5.0	55.0
Yellow Time (s)	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0
Recall Mode	Ped	Max	Max
Walk Time (s)	35.0		
Flash Dont Walk (s)	10.0		
Pedestrian Calls (#/hr)	0		
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
Queue Length 50th (ft)			
Queue Length 95th (ft)			
Internal Link Dist (ft)			
Turn Bay Length (ft)			
Base Capacity (vph)			
Starvation Cap Reductn			
Spillback Cap Reductn			
Storage Cap Reductn			
Reduced v/c Ratio			

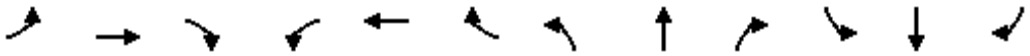
Intersection Summary



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	348	329	0	474	0	0
Future Volume (vph)	348	329	0	474	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	12	16	12	12
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.934					
Flt Protected	0.975					
Satd. Flow (prot)	1696	0	0	1760	0	0
Flt Permitted	0.975					
Satd. Flow (perm)	1696	0	0	1760	0	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	379			514	155	
Travel Time (s)	8.6			11.7	3.5	
Confl. Peds. (#/hr)	268		141			
Peak Hour Factor	0.97	0.97	0.87	0.87	0.92	0.92
Heavy Vehicles (%)	11%	2%	11%	4%	2%	2%
Bus Blockages (#/hr)	5	0	0	0	0	0
Parking (#/hr)				10		
Adj. Flow (vph)	359	339	0	545	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	698	0	0	545	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	14			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	0.94	0.92	1.00	1.05	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Stop	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 71.1%		ICU Level of Service C	
Analysis Period (min) 15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	36	953	98	320	1060	253	108	185	241	187	70	72
Future Volume (vph)	36	953	98	320	1060	253	108	185	241	187	70	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	13	12	12	12	13	10	16	16	12	16	16
Grade (%)		0%			7%			0%			0%	
Storage Length (ft)	107		0	315		0	120		0	100		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.98				0.91		0.98			0.98	
Frt		0.986				0.850		0.915			0.924	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	3434	0	1613	3226	1491	1574	1526	0	1687	1554	0
Flt Permitted	0.129			0.129			0.645			0.220		
Satd. Flow (perm)	238	3434	0	219	3226	1363	1069	1526	0	391	1554	0
Right Turn on Red			No			Yes			No			Yes
Satd. Flow (RTOR)						266					50	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		403			838			1248			514	
Travel Time (s)		9.2			19.0			28.4			11.7	
Confl. Peds. (#/hr)			132			49			27			32
Peak Hour Factor	0.89	0.89	0.89	0.95	0.95	0.95	0.93	0.93	0.93	0.94	0.94	0.94
Heavy Vehicles (%)	3%	3%	3%	8%	8%	8%	7%	7%	7%	7%	7%	7%
Bus Blockages (#/hr)	0	9	0	0	0	0	0	1	0	0	6	0
Parking (#/hr)								10			5	
Adj. Flow (vph)	40	1071	110	337	1116	266	116	199	259	199	74	77
Shared Lane Traffic (%)												
Lane Group Flow (vph)	40	1181	0	337	1116	266	116	458	0	199	151	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)		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	0.98	1.00	1.05	1.05	1.00	1.09	1.05	0.85	1.00	1.04	0.85
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	5	1		2	6			3			3	
Permitted Phases	1			6		6	3			3		
Detector Phase	5	1		2	6	6	3	3		3	3	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	11.0	41.0		11.0	46.0	46.0	40.0	40.0		40.0	40.0	
Total Split (s)	14.0	45.0		24.0	55.0	55.0	41.0	41.0		41.0	41.0	
Total Split (%)	12.7%	40.9%		21.8%	50.0%	50.0%	37.3%	37.3%		37.3%	37.3%	
Maximum Green (s)	8.0	39.0		18.0	49.0	49.0	35.0	35.0		35.0	35.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
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)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lead		Lag	Lag	Lag						
Lead-Lag Optimize?	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	Max	Ped		Max	C-Max	C-Max	Ped	Ped		Ped	Ped	
Walk Time (s)		10.0			20.0	20.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		25.0			20.0	20.0	27.0	27.0		27.0	27.0	
Pedestrian Calls (#/hr)		0			0	0	0	0		0	0	
Act Effct Green (s)	39.0	39.0		49.0	49.0	49.0	35.0	35.0		35.0	35.0	
Actuated g/C Ratio	0.35	0.35		0.45	0.45	0.45	0.32	0.32		0.32	0.32	
v/c Ratio	0.21	0.97		1.04	0.78	0.35	0.34	0.94		1.60	0.29	
Control Delay	26.0	47.9		80.1	14.9	1.7	32.2	66.8		335.2	20.2	
Queue Delay	0.0	42.0		0.0	0.6	0.0	0.0	0.0		0.0	0.0	
Total Delay	26.0	89.9		80.1	15.5	1.7	32.2	66.8		335.2	20.2	
LOS	C	F		F	B	A	C	E		F	C	
Approach Delay		87.8			26.0			59.8			199.3	
Approach LOS		F			C			E			F	
Queue Length 50th (ft)	17	432		~96	119	3	62	313		~201	52	
Queue Length 95th (ft)	m19	m#531		m#374	m127	m5	114	#516		#349	105	
Internal Link Dist (ft)		323			758			1168			434	
Turn Bay Length (ft)	107			315			120			100		
Base Capacity (vph)	194	1217		325	1437	754	340	485		124	528	
Starvation Cap Reductn	0	297		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	87	0	0	0		0	1	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.21	1.28		1.04	0.83	0.35	0.34	0.94		1.60	0.29	

Intersection Summary	
Area Type:	Other
Cycle Length: 110	
Actuated Cycle Length: 110	

Offset: 15 (14%), Referenced to phase 6:WBTL, Start of Green

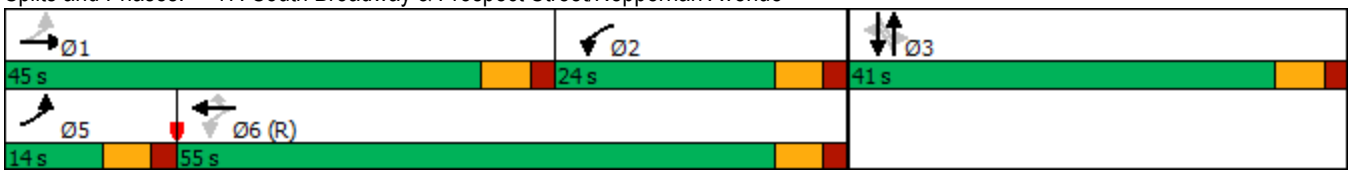
Natural Cycle: 100	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.60	
Intersection Signal Delay: 66.3	Intersection LOS: E
Intersection Capacity Utilization 106.5%	ICU Level of Service G
Analysis Period (min) 15	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

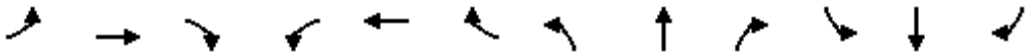
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

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

Splits and Phases: 17: South Broadway & Prospect Street/Nepperhan Avenue



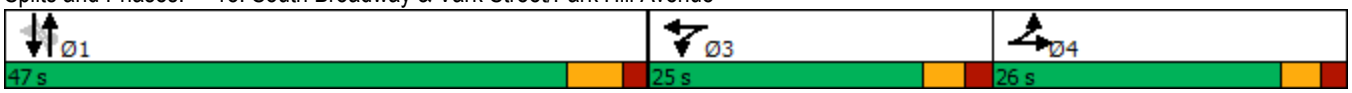
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	22	202	78	149	82	42	47	470	75	42	419	27
Future Volume (vph)	22	202	78	149	82	42	47	470	75	42	419	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	16	16	16	14	14	14	16	16	16	16	16	16
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		0.965			0.979			0.983			0.993	
Flt Protected		0.996			0.973			0.996			0.996	
Satd. Flow (prot)	0	2029	0	0	1893	0	0	1757	0	0	1775	0
Flt Permitted		0.996			0.973			0.914			0.883	
Satd. Flow (perm)	0	2029	0	0	1893	0	0	1612	0	0	1573	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16			8			9			4	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1171			125			465			1248	
Travel Time (s)		26.6			2.8			10.6			28.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Parking (#/hr)								10			10	
Adj. Flow (vph)	24	220	85	162	89	46	51	511	82	46	455	29
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	329	0	0	297	0	0	644	0	0	530	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	0.85	0.85	0.85	0.92	0.92	0.92	0.85	1.05	0.85	0.85	1.05	0.85
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA		Split	NA		Perm	NA		Perm	NA	
Protected Phases	4	4		3	3			1			1	
Permitted Phases							1			1		
Detector Phase	4	4		3	3		1	1		1	1	

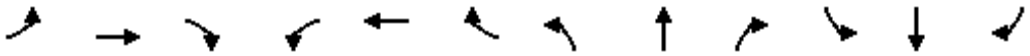


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	25.0	25.0		10.0	10.0		39.0	39.0		39.0	39.0	
Total Split (s)	26.0	26.0		25.0	25.0		47.0	47.0		47.0	47.0	
Total Split (%)	26.5%	26.5%		25.5%	25.5%		48.0%	48.0%		48.0%	48.0%	
Maximum Green (s)	21.0	21.0		20.0	20.0		41.0	41.0		41.0	41.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			6.0			6.0	
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	3.0	
Recall Mode	Ped	Ped		Max	Max		Ped	Ped		Ped	Ped	
Walk Time (s)	5.0	5.0					20.0	20.0		20.0	20.0	
Flash Dont Walk (s)	15.0	15.0					13.0	13.0		13.0	13.0	
Pedestrian Calls (#/hr)	0	0					0	0		0	0	
Act Effct Green (s)		20.5			20.0			40.3			40.3	
Actuated g/C Ratio		0.21			0.21			0.42			0.42	
v/c Ratio		0.75			0.75			0.95			0.81	
Control Delay		45.8			48.5			53.2			36.0	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		45.8			48.5			53.2			36.0	
LOS		D			D			D			D	
Approach Delay		45.8			48.5			53.2			36.0	
Approach LOS		D			D			D			D	
Queue Length 50th (ft)		183			170			369			278	
Queue Length 95th (ft)		#299			#291			#610			#461	
Internal Link Dist (ft)		1091			45			385			1168	
Turn Bay Length (ft)												
Base Capacity (vph)		452			397			687			668	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.73			0.75			0.94			0.79	

Intersection Summary			
Area Type:	Other		
Cycle Length: 98			
Actuated Cycle Length: 96.8			
Natural Cycle: 90			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.95			
Intersection Signal Delay: 46.0		Intersection LOS: D	
Intersection Capacity Utilization 86.1%		ICU Level of Service E	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

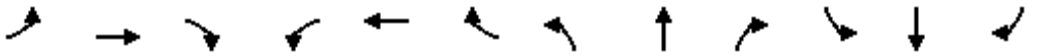
Splits and Phases: 18: South Broadway & Vark Street/Park Hill Avenue



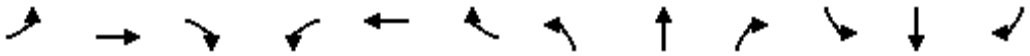


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	54	343	101	0	0	0	0	40	32	33	41	0
Future Volume (vph)	54	343	101	0	0	0	0	40	32	33	41	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	16	16	16	12	12	12	12	12	12	12	12	12
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		0.973						0.939				
Flt Protected		0.995									0.978	
Satd. Flow (prot)	0	2044	0	0	0	0	0	1749	0	0	1822	0
Flt Permitted		0.995									0.978	
Satd. Flow (perm)	0	2044	0	0	0	0	0	1749	0	0	1822	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		254			533			222			499	
Travel Time (s)		5.8			12.1			5.0			11.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	59	373	110	0	0	0	0	43	35	36	45	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	542	0	0	0	0	0	78	0	0	81	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	0.85	0.85	0.85	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
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 44.5%		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)	12	1345	24	345	1308	244	57	182	295	0	0	0
Future Volume (vph)	12	1345	24	345	1308	244	57	182	295	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	12	12	12	16	16	16	12	12	12
Grade (%)		7%			0%			0%			0%	
Storage Length (ft)	360		0	165		0	0		0	0		0
Storage Lanes	1		0	1		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.997				0.850		0.925				
Flt Protected	0.950			0.950				0.995				
Satd. Flow (prot)	1651	4893	0	1770	5085	1520	0	1652	0	0	0	0
Flt Permitted	0.095			0.095				0.995				
Satd. Flow (perm)	165	4893	0	177	5085	1520	0	1652	0	0	0	0
Right Turn on Red			Yes			No			No			Yes
Satd. Flow (RTOR)		3										
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		838			378			724			411	
Travel Time (s)		19.0			8.6			16.5			9.3	
Peak Hour Factor	0.89	0.89	0.89	0.95	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.92
Bus Blockages (#/hr)	0	0	0	0	0	10	0	0	0	0	0	0
Parking (#/hr)								10				
Adj. Flow (vph)	13	1511	27	363	1377	257	62	198	321	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	13	1538	0	363	1377	257	0	581	0	0	0	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)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.09	1.05	1.05	1.00	1.00	1.05	0.85	1.05	0.85	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2				
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru				
Leading Detector (ft)	20	100		20	100	20	20	100				
Trailing Detector (ft)	0	0		0	0	0	0	0				
Detector 1 Position(ft)	0	0		0	0	0	0	0				
Detector 1 Size(ft)	20	6		20	6	20	20	6				
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex				
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0				
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0				
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0				
Detector 2 Position(ft)		94			94			94				
Detector 2 Size(ft)		6			6			6				
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				
Detector 2 Channel												



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0				
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA				
Protected Phases	5	2		1	6			3				
Permitted Phases	2			6		6	3					
Detector Phase	5	2		1	6	6	3	3				
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0				
Minimum Split (s)	11.0	46.0		11.0	46.0	46.0	40.0	40.0				
Total Split (s)	21.0	48.0		21.0	48.0	48.0	41.0	41.0				
Total Split (%)	19.1%	43.6%		19.1%	43.6%	43.6%	37.3%	37.3%				
Maximum Green (s)	15.0	42.0		15.0	42.0	42.0	35.0	35.0				
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0				
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0				
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0				
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0		6.0				
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0				
Recall Mode	Max	Ped		Max	C-Max	C-Max	Ped	Ped				
Walk Time (s)		20.0			20.0	20.0	7.0	7.0				
Flash Dont Walk (s)		20.0			20.0	20.0	27.0	27.0				
Pedestrian Calls (#/hr)		0			0	0	0	0				
Act Effct Green (s)	57.0	42.0		57.0	42.0	42.0		35.0				
Actuated g/C Ratio	0.52	0.38		0.52	0.38	0.38		0.32				
v/c Ratio	0.05	0.82		1.18	0.71	0.44		1.11				
Control Delay	6.2	15.5		142.5	14.6	15.0		108.0				
Queue Delay	0.0	0.4		0.0	0.7	0.7		0.0				
Total Delay	6.2	15.9		142.5	15.3	15.7		108.0				
LOS	A	B		F	B	B		F				
Approach Delay		15.8			38.5			108.0				
Approach LOS		B			D			F				
Queue Length 50th (ft)	1	177		~267	77	40		~469				
Queue Length 95th (ft)	m2	m181		m#370	137	m74		#684				
Internal Link Dist (ft)		758			298			644			331	
Turn Bay Length (ft)	360			165								
Base Capacity (vph)	288	1870		308	1941	580		525				
Starvation Cap Reductn	0	0		0	245	114		0				
Spillback Cap Reductn	0	73		0	0	0		0				
Storage Cap Reductn	0	0		0	0	0		0				
Reduced v/c Ratio	0.05	0.86		1.18	0.81	0.55		1.11				

Intersection Summary	
Area Type:	Other
Cycle Length: 110	
Actuated Cycle Length: 110	
Offset: 10 (9%), Referenced to phase 6:WBTL, Start of Green	
Natural Cycle: 110	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.18	

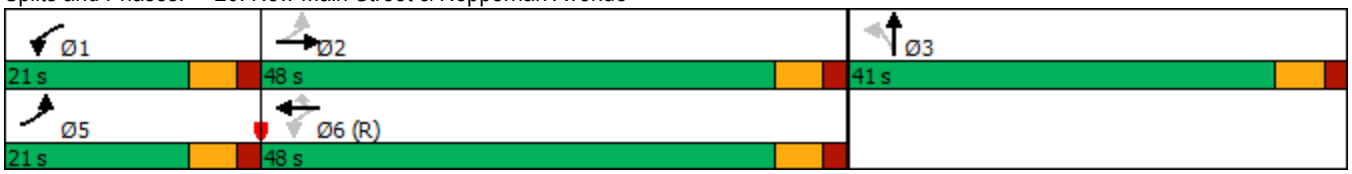
Intersection Signal Delay: 39.8	Intersection LOS: D
Intersection Capacity Utilization 91.4%	ICU Level of Service F
Analysis Period (min) 15	

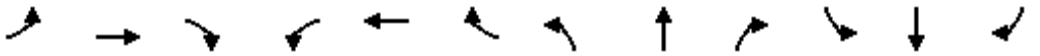
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

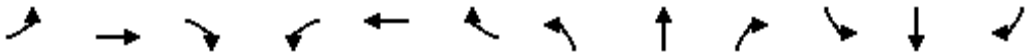
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 20: New Main Street & Nepperhan Avenue





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	58	509	120	249	517	41	82	132	87	0	0	0
Future Volume (vph)	58	509	120	249	517	41	82	132	87	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	9	9	15	10	11	11	10	10	10	12	12	12
Storage Length (ft)	75		100	70		0	0		100	0		0
Storage Lanes	1		1	1		0	0		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.989				0.850			
Flt Protected	0.950			0.950				0.981				
Satd. Flow (prot)	1547	1609	1692	1620	1705	0	0	1657	1436	0	0	0
Flt Permitted	0.222			0.269				0.981				
Satd. Flow (perm)	362	1609	1692	459	1705	0	0	1657	1436	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			78		5				95			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		436			2061			549			169	
Travel Time (s)		9.9			46.8			12.5			3.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	5%	5%	5%	4%	4%	4%	5%	5%	5%	2%	2%	2%
Bus Blockages (#/hr)	0	3	0	0	6	0	0	0	0	0	0	0
Adj. Flow (vph)	63	553	130	271	562	45	89	143	95	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	63	553	130	271	607	0	0	232	95	0	0	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)		10			10			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.14	1.16	0.88	1.09	1.08	1.04	1.09	1.09	1.09	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2	1			
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right			
Leading Detector (ft)	20	100	20	20	100		20	100	20			
Trailing Detector (ft)	0	0	0	0	0		0	0	0			
Detector 1 Position(ft)	0	0	0	0	0		0	0	0			
Detector 1 Size(ft)	20	6	20	20	6		20	6	20			
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0			
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0			
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0			
Detector 2 Position(ft)		94			94			94				
Detector 2 Size(ft)		6			6			6				
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Perm	NA	Prot			
Protected Phases	5	2		1	6			8	8			
Permitted Phases	2		2	6			8					
Detector Phase	5	2	2	1	6		8	8	8			
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0			
Minimum Split (s)	10.0	37.0	37.0	10.0	37.0		28.0	28.0	28.0			
Total Split (s)	17.0	51.0	51.0	17.0	51.0		32.0	32.0	32.0			
Total Split (%)	17.0%	51.0%	51.0%	17.0%	51.0%		32.0%	32.0%	32.0%			
Maximum Green (s)	12.0	46.0	46.0	12.0	46.0		27.0	27.0	27.0			
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0			
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0			
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0			0.0	0.0			
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0			5.0	5.0			
Lead/Lag	Lead	Lag	Lag	Lead	Lag							
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0			
Recall Mode	Max	Ped	Ped	Max	C-Max		Ped	Ped	Ped			
Walk Time (s)		20.0	20.0		20.0		10.0	10.0	10.0			
Flash Dont Walk (s)		12.0	12.0		12.0		13.0	13.0	13.0			
Pedestrian Calls (#/hr)		0	0		0		0	0	0			
Act Effct Green (s)	61.3	46.0	46.0	61.3	46.0			23.7	23.7			
Actuated g/C Ratio	0.61	0.46	0.46	0.61	0.46			0.24	0.24			
v/c Ratio	0.16	0.75	0.16	0.59	0.77			0.59	0.23			
Control Delay	6.8	24.5	7.2	17.6	10.2			40.5	7.8			
Queue Delay	0.0	0.0	0.0	0.0	0.0			0.0	0.0			
Total Delay	6.8	24.5	7.2	17.6	10.2			40.5	7.8			
LOS	A	C	A	B	B			D	A			
Approach Delay		20.0			12.5			31.0				
Approach LOS		B			B			C				
Queue Length 50th (ft)	11	223	13	41	52			133	0			
Queue Length 95th (ft)	m21	m346	m33	m38	m60			203	38			
Internal Link Dist (ft)		356			1981			469			89	
Turn Bay Length (ft)	75		100	70					100			
Base Capacity (vph)	402	740	820	458	787			447	457			
Starvation Cap Reductn	0	0	0	0	0			0	0			
Spillback Cap Reductn	0	0	0	0	0			0	0			
Storage Cap Reductn	0	0	0	0	0			0	0			
Reduced v/c Ratio	0.16	0.75	0.16	0.59	0.77			0.52	0.21			

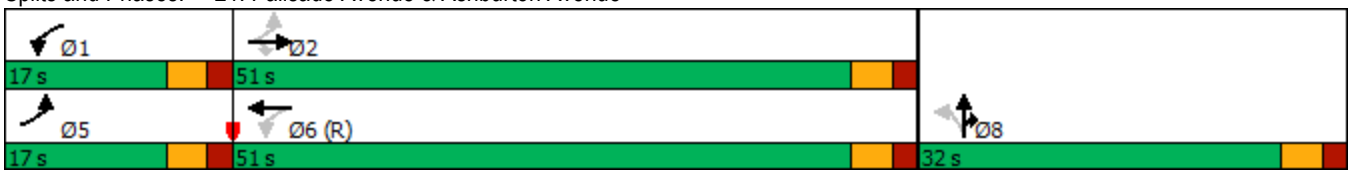
Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 94 (94%), Referenced to phase 6:WBTL, Start of Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.77			
Intersection Signal Delay: 18.5		Intersection LOS: B	

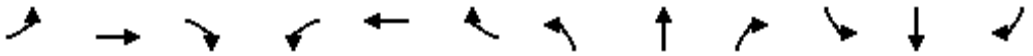
Intersection Capacity Utilization 64.6% ICU Level of Service C

Analysis Period (min) 15

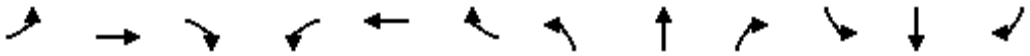
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 21: Palisade Avenue & Ashburton Avenue





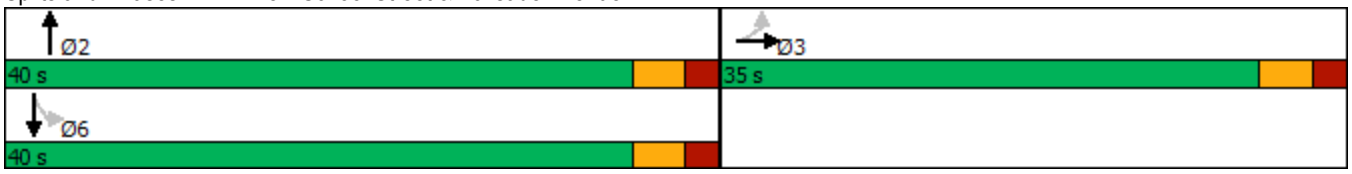
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	139	240	29	0	0	0	0	157	57	93	323	0
Future Volume (vph)	139	240	29	0	0	0	0	157	57	93	323	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	16	16	16	12	12	12	16	16	16	16	16	16
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		0.990						0.964				
Flt Protected		0.983									0.989	
Satd. Flow (prot)	0	1798	0	0	0	0	0	2035	0	0	2071	0
Flt Permitted		0.983									0.872	
Satd. Flow (perm)	0	1798	0	0	0	0	0	2035	0	0	1826	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6						33				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		533			736			222			1248	
Travel Time (s)		12.1			16.7			5.0			28.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	2	0
Parking (#/hr)		5										
Adj. Flow (vph)	151	261	32	0	0	0	0	171	62	101	351	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	444	0	0	0	0	0	233	0	0	452	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	0.85	1.01	0.85	1.00	1.00	1.00	0.85	0.85	0.85	0.85	0.86	0.85
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2						2		1	2	
Detector Template	Left	Thru						Thru		Left	Thru	
Leading Detector (ft)	20	100						100		20	100	
Trailing Detector (ft)	0	0						0		0	0	
Detector 1 Position(ft)	0	0						0		0	0	
Detector 1 Size(ft)	20	6						6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex						Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0						0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0						0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0						0.0		0.0	0.0	
Detector 2 Position(ft)		94						94			94	
Detector 2 Size(ft)		6						6			6	
Detector 2 Type		Cl+Ex						Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0						0.0			0.0	
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		3						2			6	
Permitted Phases	3									6		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	3	3						2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0						5.0		5.0	5.0	
Minimum Split (s)	34.0	34.0						39.0		10.0	10.0	
Total Split (s)	35.0	35.0						40.0		40.0	40.0	
Total Split (%)	46.7%	46.7%						53.3%		53.3%	53.3%	
Maximum Green (s)	30.0	30.0						35.0		35.0	35.0	
Yellow Time (s)	3.0	3.0						3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0						2.0		2.0	2.0	
Lost Time Adjust (s)		0.0						0.0			0.0	
Total Lost Time (s)		5.0						5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0						3.0		3.0	3.0	
Recall Mode	Ped	Ped						Ped		Max	Max	
Walk Time (s)	9.0	9.0						14.0				
Flash Dont Walk (s)	20.0	20.0						20.0				
Pedestrian Calls (#/hr)	0	0						0				
Act Effct Green (s)		29.2						35.0			35.0	
Actuated g/C Ratio		0.39						0.47			0.47	
v/c Ratio		0.62						0.24			0.52	
Control Delay		22.5						10.8			16.6	
Queue Delay		0.0						0.0			0.0	
Total Delay		22.5						10.8			16.6	
LOS		C						B			B	
Approach Delay		22.5						10.8			16.6	
Approach LOS		C						B			B	
Queue Length 50th (ft)		157						51			138	
Queue Length 95th (ft)		251						94			225	
Internal Link Dist (ft)		453			656			142			1168	
Turn Bay Length (ft)												
Base Capacity (vph)		730						977			861	
Starvation Cap Reductn		0						0			0	
Spillback Cap Reductn		0						0			0	
Storage Cap Reductn		0						0			0	
Reduced v/c Ratio		0.61						0.24			0.52	

Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 74.2			
Natural Cycle: 75			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay: 17.7		Intersection LOS: B	
Intersection Capacity Utilization 68.5%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 22: New School Street & Palisade Avenue



Lane Group	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	SBL2	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	71	1487	75	7	58	41	1702	145	87	28	16	195
Future Volume (vph)	71	1487	75	7	58	41	1702	145	87	28	16	195
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	12	12	11	12	11	16	16	16	16
Grade (%)		0%					-5%				0%	
Storage Length (ft)	100		0			210		0		0		0
Storage Lanes	1		0			1		1		0		0
Taper Length (ft)	25					25				25		
Lane Util. Factor	1.00	0.91	0.91	0.91	0.91	1.00	0.91	1.00	1.00	1.00	1.00	1.00
Frt		0.992						0.850			0.919	
Flt Protected	0.950					0.950					0.983	
Satd. Flow (prot)	1711	5045	0	0	0	1753	5212	1569	0	0	1907	0
Flt Permitted	0.091					0.091					0.983	
Satd. Flow (perm)	164	5045	0	0	0	168	5212	1569	0	0	1907	0
Right Turn on Red				Yes				Yes				Yes
Satd. Flow (RTOR)		1						140			72	
Link Speed (mph)		30					30				30	
Link Distance (ft)		378					492				509	
Travel Time (s)		8.6					11.2				11.6	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.95	0.95	0.95	0.95	0.92	0.92	0.92	0.92
Adj. Flow (vph)	80	1671	84	8	61	43	1792	153	95	30	17	212
Shared Lane Traffic (%)												
Lane Group Flow (vph)	80	1763	0	0	0	104	1792	153	0	0	354	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Right	Left	Left	Left	Right	Left	Left	Left	Right
Median Width(ft)		12					12				0	
Link Offset(ft)		0					0				0	
Crosswalk Width(ft)		16					16				16	
Two way Left Turn Lane												
Headway Factor	1.04	1.00	1.00	1.00	0.97	1.01	0.97	1.01	0.85	0.85	0.85	0.85
Turning Speed (mph)	15		9	9	15	15		9	15	15		9
Number of Detectors	1	2			1	1	2	1	1	1	2	
Detector Template	Left	Thru			Left	Left	Thru	Right	Left	Left	Thru	
Leading Detector (ft)	20	100			20	20	100	20	20	20	100	
Trailing Detector (ft)	0	0			0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0			0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6			20	20	6	20	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94					94				94	
Detector 2 Size(ft)		6					6				6	
Detector 2 Type		Cl+Ex					Cl+Ex				Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0					0.0				0.0	
Turn Type	pm+pt	NA			pm+pt	pm+pt	NA	Perm	Perm	Perm	NA	

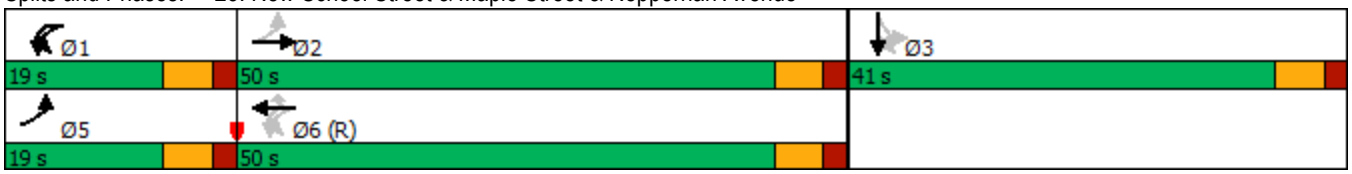
Lane Group	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	SBL2	SBL	SBT	SBR
Protected Phases	5	2			1	1	6				3	
Permitted Phases	2				6	6		6	3	3		
Detector Phase	5	2			1	1	6	6	3	3	3	
Switch Phase												
Minimum Initial (s)	5.0	5.0			5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	11.0	46.0			11.0	11.0	46.0	46.0	40.0	40.0	40.0	
Total Split (s)	19.0	50.0			19.0	19.0	50.0	50.0	41.0	41.0	41.0	
Total Split (%)	17.3%	45.5%			17.3%	17.3%	45.5%	45.5%	37.3%	37.3%	37.3%	
Maximum Green (s)	13.0	44.0			13.0	13.0	44.0	44.0	35.0	35.0	35.0	
Yellow Time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0	
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)	0.0	0.0				0.0	0.0	0.0			0.0	
Total Lost Time (s)	6.0	6.0				6.0	6.0	6.0			6.0	
Lead/Lag	Lead	Lag			Lead	Lead	Lag	Lag				
Lead-Lag Optimize?	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	Max	Ped			Max	Max	C-Max	C-Max	Ped	Ped	Ped	
Walk Time (s)		20.0					20.0	20.0	7.0	7.0	7.0	
Flash Dont Walk (s)		20.0					20.0	20.0	27.0	27.0	27.0	
Pedestrian Calls (#/hr)		0					0	0	0	0	0	
Act Effct Green (s)	58.0	44.0				58.0	44.0	44.0			34.0	
Actuated g/C Ratio	0.53	0.40				0.53	0.40	0.40			0.31	
v/c Ratio	0.28	0.87				0.36	0.86	0.22			0.55	
Control Delay	22.8	17.1				16.6	35.4	5.3			28.7	
Queue Delay	0.0	0.9				0.0	0.0	0.0			0.0	
Total Delay	22.8	18.0				16.6	35.4	5.3			28.7	
LOS	C	B				B	D	A			C	
Approach Delay		18.2					32.2				28.7	
Approach LOS		B					C				C	
Queue Length 50th (ft)	19	137				31	416	5			165	
Queue Length 95th (ft)	m30	m152				68	484	46			259	
Internal Link Dist (ft)		298					412				429	
Turn Bay Length (ft)	100					210						
Base Capacity (vph)	283	2018				290	2084	711			655	
Starvation Cap Reductn	0	84				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	0.28	0.91				0.36	0.86	0.22			0.54	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 10 (9%), Referenced to phase 6:WBTL, Start of Green			
Natural Cycle: 100			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.87			
Intersection Signal Delay: 25.8		Intersection LOS: C	
Intersection Capacity Utilization 71.2%		ICU Level of Service C	

Analysis Period (min) 15

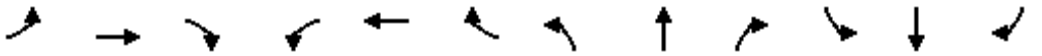
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 23: New School Street & Maple Street & Nepperhan Avenue

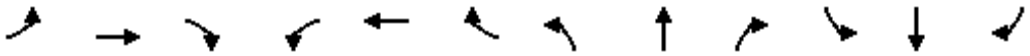


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1574	0	1	1896	50	137
Future Volume (vph)	1574	0	1	1896	50	137
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	15	15	15
Grade (%)	5%			-5%	0%	
Storage Length (ft)		0	120		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			25		25	
Lane Util. Factor	0.91	0.91	1.00	0.91	1.00	1.00
Frt					0.901	
Flt Protected			0.950		0.987	
Satd. Flow (prot)	4752	0	1814	5673	1822	0
Flt Permitted			0.950		0.987	
Satd. Flow (perm)	4752	0	1814	5673	1822	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	492			401	154	
Travel Time (s)	11.2			9.1	3.5	
Peak Hour Factor	0.89	0.89	0.95	0.95	0.92	0.92
Bus Blockages (#/hr)	0	0	0	8	0	0
Parking (#/hr)	5					
Adj. Flow (vph)	1769	0	1	1996	54	149
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1769	0	1	1996	203	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	15	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.09	1.03	0.97	0.87	0.88	0.88
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 54.5%		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)	100	519	35	116	549	76	71	341	72	135	335	110
Future Volume (vph)	100	519	35	116	549	76	71	341	72	135	335	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	11	10	10	11	11	10	13	13	10	12	11
Storage Length (ft)	150		80	120		0	185		0	120		0
Storage Lanes	1		1	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850		0.982			0.974				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1620	1766	1449	1636	1751	0	1636	3528	0	1589	3406	1473
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1620	1766	1449	1636	1751	0	1636	3528	0	1589	3406	1473
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			98		7			24				120
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2061			390			1273			212	
Travel Time (s)		46.8			8.9			28.9			4.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	3%	3%	3%	6%	6%	6%
Adj. Flow (vph)	109	564	38	126	597	83	77	371	78	147	364	120
Shared Lane Traffic (%)												
Lane Group Flow (vph)	109	564	38	126	680	0	77	449	0	147	364	120
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)		10			10			10			10	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.09	1.04	1.09	1.09	1.04	1.04	1.09	0.96	0.96	1.09	1.00	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	NA		Prot	NA	pm+ov



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4	5	3	8		5	2		1	6	7
Permitted Phases			4									6
Detector Phase	7	4	5	3	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0		5.0	10.0		5.0	10.0	5.0
Minimum Split (s)	11.0	36.0	11.0	11.0	36.0		11.0	30.0		11.0	30.0	11.0
Total Split (s)	16.0	36.0	16.0	16.0	36.0		16.0	32.0		16.0	32.0	16.0
Total Split (%)	16.0%	36.0%	16.0%	16.0%	36.0%		16.0%	32.0%		16.0%	32.0%	16.0%
Maximum Green (s)	10.0	30.0	10.0	10.0	30.0		10.0	26.0		10.0	26.0	10.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
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)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0		6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lag		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	Ped	None	None	Ped		None	C-Max		None	Ped	None
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		23.0			23.0			17.0			17.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	9.5	30.2	45.1	9.8	30.5		8.9	26.0		10.0	29.5	45.0
Actuated g/C Ratio	0.10	0.30	0.45	0.10	0.30		0.09	0.26		0.10	0.30	0.45
v/c Ratio	0.71	1.06	0.05	0.79	1.26		0.53	0.48		0.93	0.36	0.16
Control Delay	85.2	73.3	0.2	77.6	164.3		56.8	31.6		101.8	30.4	4.0
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	85.2	73.3	0.2	77.6	164.3		56.8	31.6		101.8	30.4	4.0
LOS	F	E	A	E	F		E	C		F	C	A
Approach Delay		71.2			150.8			35.3			42.0	
Approach LOS		E			F			D			D	
Queue Length 50th (ft)	73	~397	0	80	~554		47	120		94	101	0
Queue Length 95th (ft)	m105	#593	m1	#175	#776		95	168		#214	144	33
Internal Link Dist (ft)		1981			310			1193			132	
Turn Bay Length (ft)	150		80	120			185			120		
Base Capacity (vph)	162	533	722	163	538		163	935		158	1005	735
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	0.67	1.06	0.05	0.77	1.26		0.47	0.48		0.93	0.36	0.16

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 0 (0%), Referenced to phase 2:NBT, Start of Green			
Natural Cycle: 100			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.26			
Intersection Signal Delay: 81.2		Intersection LOS: F	
Intersection Capacity Utilization 78.2%		ICU Level of Service D	

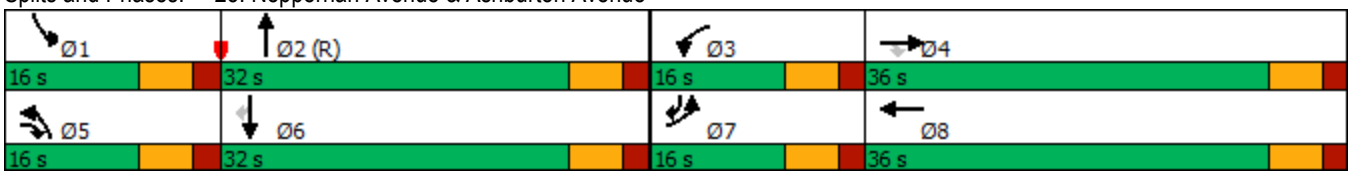
Analysis Period (min) 15

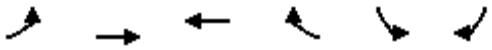
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

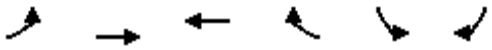
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 25: Nepperhan Avenue & Ashburton Avenue





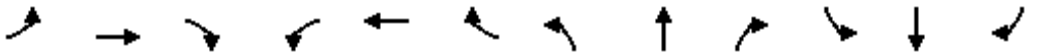
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	438	486	0	46	38
Future Volume (vph)	0	438	486	0	46	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	16	16
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Frt					0.939	
Flt Protected					0.973	
Satd. Flow (prot)	0	3278	3504	0	1929	0
Flt Permitted					0.973	
Satd. Flow (perm)	0	3278	3504	0	1929	0
Right Turn on Red				No		Yes
Satd. Flow (RTOR)					39	
Link Speed (mph)		30	30		30	
Link Distance (ft)		427	310		81	
Travel Time (s)		9.7	7.0		1.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Bus Blockages (#/hr)	0	6	5	0	0	0
Parking (#/hr)		5				
Adj. Flow (vph)	0	476	528	0	50	41
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	476	528	0	91	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		16	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.10	1.01	1.00	0.85	0.85
Turning Speed (mph)	15			9	15	9
Number of Detectors		2	2		1	
Detector Template		Thru	Thru		Left	
Leading Detector (ft)		100	100		20	
Trailing Detector (ft)		0	0		0	
Detector 1 Position(ft)		0	0		0	
Detector 1 Size(ft)		6	6		20	
Detector 1 Type		Cl+Ex	Cl+Ex		Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)		0.0	0.0		0.0	
Detector 1 Queue (s)		0.0	0.0		0.0	
Detector 1 Delay (s)		0.0	0.0		0.0	
Detector 2 Position(ft)		94	94			
Detector 2 Size(ft)		6	6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type		NA	NA		Prot	
Protected Phases		2	6		3	
Permitted Phases						



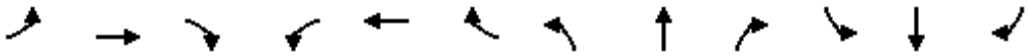
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Detector Phase		2	6		3	
Switch Phase						
Minimum Initial (s)		5.0	5.0		5.0	
Minimum Split (s)		10.0	10.0		35.0	
Total Split (s)		35.0	35.0		35.0	
Total Split (%)		33.3%	33.3%		33.3%	
Maximum Green (s)		30.0	30.0		30.0	
Yellow Time (s)		3.0	3.0		3.0	
All-Red Time (s)		2.0	2.0		2.0	
Lost Time Adjust (s)		0.0	0.0		0.0	
Total Lost Time (s)		5.0	5.0		5.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)		3.0	3.0		3.0	
Recall Mode		Max	Max		None	
Walk Time (s)					7.0	
Flash Dont Walk (s)					23.0	
Pedestrian Calls (#/hr)					5	
Act Effct Green (s)		30.5	30.5		10.8	
Actuated g/C Ratio		0.36	0.36		0.13	
v/c Ratio		0.40	0.42		0.32	
Control Delay		23.6	23.6		23.6	
Queue Delay		0.0	0.0		0.0	
Total Delay		23.6	23.6		23.6	
LOS		C	C		C	
Approach Delay		23.6	23.6		23.6	
Approach LOS		C	C		C	
Queue Length 50th (ft)		94	105		26	
Queue Length 95th (ft)		191	210		65	
Internal Link Dist (ft)		347	230		1	
Turn Bay Length (ft)						
Base Capacity (vph)		1182	1263		720	
Starvation Cap Reductn		0	0		0	
Spillback Cap Reductn		0	0		0	
Storage Cap Reductn		0	0		0	
Reduced v/c Ratio		0.40	0.42		0.13	

Intersection Summary			
Area Type:	Other		
Cycle Length: 105			
Actuated Cycle Length: 84.6			
Natural Cycle: 65			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.42			
Intersection Signal Delay: 23.6		Intersection LOS: C	
Intersection Capacity Utilization 26.6%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 26: Nepperhan Avenue & Copcutt Lane



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	251	114	25	212	0	56	0	1609	102	123	1660	0
Future Volume (vph)	251	114	25	212	0	56	0	1609	102	123	1660	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	16	16	16	12	12	12	11	12	12
Grade (%)		0%			0%			5%			0%	
Storage Length (ft)	0		0	0		0	0		0	140		0
Storage Lanes	1		0	0		0	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	1.00
Frt		0.973			0.972			0.991				
Flt Protected	0.950				0.962					0.950		
Satd. Flow (prot)	1454	1752	0	0	1727	0	0	4914	0	1711	5085	0
Flt Permitted	0.651				0.656					0.083		
Satd. Flow (perm)	996	1752	0	0	1178	0	0	4914	0	149	5085	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10			89			10				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		736			401			401			720	
Travel Time (s)		16.7			9.1			9.1			16.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.89	0.89	0.89	0.95	0.95	0.95
Parking (#/hr)	10				5							
Adj. Flow (vph)	273	124	27	230	0	61	0	1808	115	129	1747	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	273	151	0	0	291	0	0	1923	0	129	1747	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)		11			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.28	1.04	1.04	0.85	1.01	0.85	1.03	1.03	1.03	1.04	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2			2		1	2	
Detector Template	Left	Thru		Left	Thru			Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100			100		20	100	
Trailing Detector (ft)	0	0		0	0			0		0	0	
Detector 1 Position(ft)	0	0		0	0			0		0	0	
Detector 1 Size(ft)	20	6		20	6			6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA			NA		pm+pt	NA	
Protected Phases		3			3			2		1	6	
Permitted Phases	3			3						6		
Detector Phase	3	3		3	3			2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0			5.0		5.0	5.0	
Minimum Split (s)	40.0	40.0		40.0	40.0			39.0		11.0	39.0	
Total Split (s)	41.0	41.0		41.0	41.0			48.0		21.0	69.0	
Total Split (%)	37.3%	37.3%		37.3%	37.3%			43.6%		19.1%	62.7%	
Maximum Green (s)	35.0	35.0		35.0	35.0			42.0		15.0	63.0	
Yellow Time (s)	4.0	4.0		4.0	4.0			4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0			2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0			0.0			0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0			6.0			6.0		6.0	6.0	
Lead/Lag								Lag		Lead		
Lead-Lag Optimize?								Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Recall Mode	Ped	Ped		Ped	Ped			Ped		Max	Ped	
Walk Time (s)	7.0	7.0		7.0	7.0			20.0			20.0	
Flash Dont Walk (s)	27.0	27.0		27.0	27.0			13.0			13.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	34.6	34.6			34.6			42.0		63.0	63.0	
Actuated g/C Ratio	0.32	0.32			0.32			0.38		0.57	0.57	
v/c Ratio	0.87	0.27			0.67			1.02		0.43	0.60	
Control Delay	63.5	27.7			31.0			59.2		19.5	16.2	
Queue Delay	0.0	0.0			0.0			0.0		0.0	0.0	
Total Delay	63.5	27.7			31.0			59.2		19.5	16.2	
LOS	E	C			C			E		B	B	
Approach Delay		50.7			31.0			59.2			16.4	
Approach LOS		D			C			E			B	
Queue Length 50th (ft)	180	74			124			~528		40	277	
Queue Length 95th (ft)	#334	127			227			#614		93	323	
Internal Link Dist (ft)		656			321			321			640	
Turn Bay Length (ft)										140		
Base Capacity (vph)	317	566			436			1889		299	2923	
Starvation Cap Reductn	0	0			0			0		0	0	
Spillback Cap Reductn	0	0			0			0		0	0	
Storage Cap Reductn	0	0			0			0		0	0	
Reduced v/c Ratio	0.86	0.27			0.67			1.02		0.43	0.60	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 109.6			
Natural Cycle: 90			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 1.02			
Intersection Signal Delay: 38.8		Intersection LOS: D	
Intersection Capacity Utilization 89.2%		ICU Level of Service E	

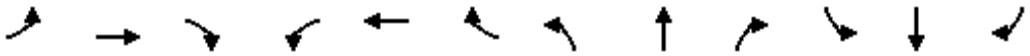
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 27: Nepperhan Avenue & Elm Street

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	178	1157	143	127	1126	32	41	97	110	29	137	92
Future Volume (vph)	178	1157	143	127	1126	32	41	97	110	29	137	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	13	13	10	13	13	14	14	14	12	12	12
Storage Length (ft)	105		0	130		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.983			0.996			0.940			0.952	
Flt Protected	0.950			0.950				0.992			0.994	
Satd. Flow (prot)	1652	3595	0	1652	3621	0	0	1853	0	0	1524	0
Flt Permitted	0.118			0.075				0.847			0.924	
Satd. Flow (perm)	205	3595	0	130	3621	0	0	1582	0	0	1417	0
Right Turn on Red			No			Yes			Yes			No
Satd. Flow (RTOR)					4			36				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1429			1109			369			272	
Travel Time (s)		32.5			25.2			8.4			6.2	
Peak Hour Factor	0.89	0.89	0.89	0.95	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.92
Bus Blockages (#/hr)	0	0	0	0	3	0	0	0	0	0	3	0
Parking (#/hr)											5	
Adj. Flow (vph)	200	1300	161	134	1185	34	45	105	120	32	149	100
Shared Lane Traffic (%)												
Lane Group Flow (vph)	200	1461	0	134	1219	0	0	270	0	0	281	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)		10			10			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.09	0.96	0.96	1.09	0.97	0.96	0.92	0.92	0.92	1.00	1.20	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			3			3	
Permitted Phases	2			6			3			3		
Detector Phase	5	2		1	6		3	3		3	3	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	11.0	16.0		11.0	28.0		35.0	35.0		35.0	35.0	
Total Split (s)	16.0	59.0		16.0	59.0		35.0	35.0		35.0	35.0	
Total Split (%)	14.5%	53.6%		14.5%	53.6%		31.8%	31.8%		31.8%	31.8%	
Maximum Green (s)	10.0	53.0		10.0	53.0		29.0	29.0		29.0	29.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0			6.0			6.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	C-Max		None	Ped		Ped	Ped		Ped	Ped	
Walk Time (s)					10.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)					12.0		22.0	22.0		22.0	22.0	
Pedestrian Calls (#/hr)					0		0	0		0	0	
Act Effct Green (s)	63.8	54.0		62.2	53.2			29.0			29.0	
Actuated g/C Ratio	0.58	0.49		0.57	0.48			0.26			0.26	
v/c Ratio	0.81	0.83		0.68	0.70			0.61			0.75	
Control Delay	42.4	29.3		34.4	40.5			37.4			51.5	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	42.4	29.3		34.4	40.5			37.4			51.5	
LOS	D	C		C	D			D			D	
Approach Delay		30.9			39.9			37.4			51.5	
Approach LOS		C			D			D			D	
Queue Length 50th (ft)	62	458		77	415			145			183	
Queue Length 95th (ft)	#179	550		#133	483			237			#307	
Internal Link Dist (ft)		1349			1029			289			192	
Turn Bay Length (ft)	105			130								
Base Capacity (vph)	250	1764		212	1752			443			373	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.80	0.83		0.63	0.70			0.61			0.75	

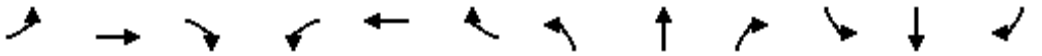
Intersection Summary	
Area Type:	Other
Cycle Length: 110	
Actuated Cycle Length: 110	
Offset: 69 (63%), Referenced to phase 2:EBTL, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.83	
Intersection Signal Delay: 36.4	Intersection LOS: D

Intersection Capacity Utilization 80.0% ICU Level of Service D

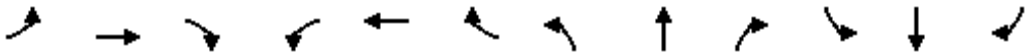
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 28: Walnut Street & Yonkers Avenue



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	1202	54	122	1273	31	12	11	78	0	0	0
Future Volume (vph)	40	1202	54	122	1273	31	12	11	78	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	11	11	10	12	12	15	15	15	12	12	12
Storage Length (ft)	85		0	85		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.994			0.996			0.896				
Flt Protected	0.950			0.950				0.994				
Satd. Flow (prot)	1652	3401	0	1652	3504	0	0	1825	0	0	0	0
Flt Permitted	0.197			0.070				0.994				
Satd. Flow (perm)	342	3401	0	122	3504	0	0	1825	0	0	0	0
Right Turn on Red			Yes			Yes			No			Yes
Satd. Flow (RTOR)		5			5							
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1109			370			410			164	
Travel Time (s)		25.2			8.4			9.3			3.7	
Peak Hour Factor	0.89	0.89	0.89	0.95	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.92
Bus Blockages (#/hr)	0	0	0	0	3	0	0	0	0	0	0	0
Adj. Flow (vph)	45	1351	61	128	1340	33	13	12	85	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	45	1412	0	128	1373	0	0	110	0	0	0	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)		10			10			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.09	1.04	1.04	1.09	1.01	1.00	0.88	0.88	0.88	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2				
Detector Template	Left	Thru		Left	Thru		Left	Thru				
Leading Detector (ft)	20	100		20	100		20	100				
Trailing Detector (ft)	0	0		0	0		0	0				
Detector 1 Position(ft)	0	0		0	0		0	0				
Detector 1 Size(ft)	20	6		20	6		20	6				
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex				
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0				
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0				
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0				
Detector 2 Position(ft)		94			94			94				
Detector 2 Size(ft)		6			6			6				
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				
Turn Type	Perm	NA		pm+pt	NA		Perm	NA				



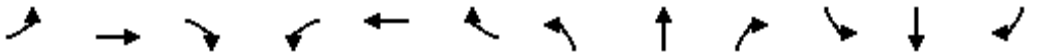
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		2		1	6			3				
Permitted Phases	2			6			3					
Detector Phase	2	2		1	6		3	3				
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		10.0	10.0				
Minimum Split (s)	11.0	11.0		11.0	11.0		32.0	32.0				
Total Split (s)	57.0	57.0		21.0	78.0		32.0	32.0				
Total Split (%)	51.8%	51.8%		19.1%	70.9%		29.1%	29.1%				
Maximum Green (s)	51.0	51.0		15.0	72.0		26.0	26.0				
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0				
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0				
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0				
Total Lost Time (s)	6.0	6.0		6.0	6.0			6.0				
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	Yes	Yes		Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0				
Recall Mode	C-Max	C-Max		Max	Max		Ped	Ped				
Walk Time (s)							7.0	7.0				
Flash Dont Walk (s)							19.0	19.0				
Pedestrian Calls (#/hr)							0	0				
Act Effct Green (s)	51.0	51.0		72.0	72.0			26.0				
Actuated g/C Ratio	0.46	0.46		0.65	0.65			0.24				
v/c Ratio	0.28	0.89		0.44	0.60			0.26				
Control Delay	9.2	20.2		39.3	5.7			36.1				
Queue Delay	0.0	0.0		0.0	0.1			0.0				
Total Delay	9.2	20.2		39.3	5.8			36.1				
LOS	A	C		D	A			D				
Approach Delay		19.9			8.7			36.1				
Approach LOS		B			A			D				
Queue Length 50th (ft)	7	527		52	77			63				
Queue Length 95th (ft)	m9	629		m77	m78			114				
Internal Link Dist (ft)		1029			290			330			84	
Turn Bay Length (ft)	85			85								
Base Capacity (vph)	158	1579		288	2295			431				
Starvation Cap Reductn	0	0		0	199			0				
Spillback Cap Reductn	0	0		0	0			0				
Storage Cap Reductn	0	0		0	0			0				
Reduced v/c Ratio	0.28	0.89		0.44	0.66			0.26				

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 103 (94%), Referenced to phase 2:EBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.89			
Intersection Signal Delay: 15.0		Intersection LOS: B	
Intersection Capacity Utilization 65.0%		ICU Level of Service C	

Analysis Period (min) 15

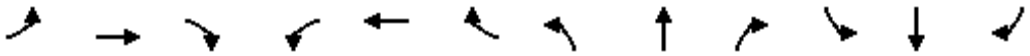
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 29: Prescott Street & Yonkers Avenue



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1236	44	8	1389	658	13	0	2	780	1	24
Future Volume (vph)	0	1236	44	8	1389	658	13	0	2	780	1	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	12	12	14	12	12	12	11	11	12
Storage Length (ft)	0		0	0		250	0		0	0		0
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.995				0.850		0.865			0.991	
Flt Protected							0.950			0.950	0.955	
Satd. Flow (prot)	0	3404	0	0	3539	1689	1770	0	0	1625	1600	0
Flt Permitted					0.945		0.950			0.950	0.955	
Satd. Flow (perm)	0	3404	0	0	3345	1689	1770	0	0	1625	1600	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5				693		169			3	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		370			325			129			377	
Travel Time (s)		8.4			7.4			2.9			8.6	
Peak Hour Factor	0.89	0.89	0.89	0.95	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.92
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	3	0
Adj. Flow (vph)	0	1389	49	8	1462	693	14	0	2	848	1	26
Shared Lane Traffic (%)										48%		
Lane Group Flow (vph)	0	1438	0	0	1470	693	14	2	0	441	434	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)		10			10			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.04	1.00	1.00	0.92	1.00	1.00	1.00	1.04	1.06	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		2		1	2	1	1			1	2	
Detector Template		Thru		Left	Thru	Right	Left			Left	Thru	
Leading Detector (ft)		100		20	100	20	20			20	100	
Trailing Detector (ft)		0		0	0	0	0			0	0	
Detector 1 Position(ft)		0		0	0	0	0			0	0	
Detector 1 Size(ft)		6		20	6	20	20			20	6	
Detector 1 Type		Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)		0.0		0.0	0.0	0.0	0.0			0.0	0.0	
Detector 1 Queue (s)		0.0		0.0	0.0	0.0	0.0			0.0	0.0	
Detector 1 Delay (s)		0.0		0.0	0.0	0.0	0.0			0.0	0.0	
Detector 2 Position(ft)		94			94						94	
Detector 2 Size(ft)		6			6						6	
Detector 2 Type		Cl+Ex			Cl+Ex						Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0						0.0	
Turn Type		NA		Perm	NA	custom	Prot			Split	NA	

Lane Group	Ø1	Ø2
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Lane Width (ft)		
Storage Length (ft)		
Storage Lanes		
Taper Length (ft)		
Lane Util. Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Peak Hour Factor		
Bus Blockages (#/hr)		
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)		
Number of Detectors		
Detector Template		
Leading Detector (ft)		
Trailing Detector (ft)		
Detector 1 Position(ft)		
Detector 1 Size(ft)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Detector 2 Position(ft)		
Detector 2 Size(ft)		
Detector 2 Type		
Detector 2 Channel		
Detector 2 Extend (s)		
Turn Type		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		1 2			1 2	2 3 4	4			3	3	
Permitted Phases				1 2								
Detector Phase		1 2		1 2	1 2	2 3 4	4			3	3	
Switch Phase												
Minimum Initial (s)							5.0			5.0	5.0	
Minimum Split (s)							10.0			32.0	32.0	
Total Split (s)							10.0			36.0	36.0	
Total Split (%)							9.1%			32.7%	32.7%	
Maximum Green (s)							5.0			30.0	30.0	
Yellow Time (s)							3.0			4.0	4.0	
All-Red Time (s)							2.0			2.0	2.0	
Lost Time Adjust (s)							0.0			0.0	0.0	
Total Lost Time (s)							5.0			6.0	6.0	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)							3.0			3.0	3.0	
Recall Mode							None			None	None	
Walk Time (s)										7.0	7.0	
Flash Dont Walk (s)										19.0	19.0	
Pedestrian Calls (#/hr)										0	0	
Act Effct Green (s)		61.0			61.0	87.0	5.0	0.0		30.0	30.0	
Actuated g/C Ratio		0.55			0.55	0.79	0.05	0.00		0.27	0.27	
v/c Ratio		0.76			0.79	0.47	0.17	0.01		1.00	0.99	
Control Delay		7.9			30.1	0.8	55.7	0.0		82.6	81.4	
Queue Delay		0.1			0.2	0.2	0.0	0.0		0.0	0.0	
Total Delay		8.0			30.3	1.0	55.7	0.0		82.6	81.4	
LOS		A			C	A	E	A		F	F	
Approach Delay		8.0			20.9			48.7			82.0	
Approach LOS		A			C			D			F	
Queue Length 50th (ft)		69			429	0	10	0		327	320	
Queue Length 95th (ft)		137			512	m0	31	0		#548	#541	
Internal Link Dist (ft)		290			245			49			297	
Turn Bay Length (ft)						250						
Base Capacity (vph)		1889			1854	1480	80	169		443	438	
Starvation Cap Reductn		50			51	214	0	0		0	0	
Spillback Cap Reductn		0			0	0	0	0		0	0	
Storage Cap Reductn		0			0	0	0	0		0	0	
Reduced v/c Ratio		0.78			0.82	0.55	0.17	0.01		1.00	0.99	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 0 (0%), Referenced to phase 2:EBWB, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.00			
Intersection Signal Delay: 28.8		Intersection LOS: C	
Intersection Capacity Utilization Err%		ICU Level of Service H	

Lane Group	Ø1	Ø2
Protected Phases	1	2
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	5.0	5.0
Minimum Split (s)	17.0	11.0
Total Split (s)	17.0	47.0
Total Split (%)	15%	43%
Maximum Green (s)	14.0	41.0
Yellow Time (s)	2.0	4.0
All-Red Time (s)	1.0	2.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes
Vehicle Extension (s)	3.0	3.0
Recall Mode	None	C-Max
Walk Time (s)	5.0	
Flash Dont Walk (s)	9.0	
Pedestrian Calls (#/hr)	0	
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		

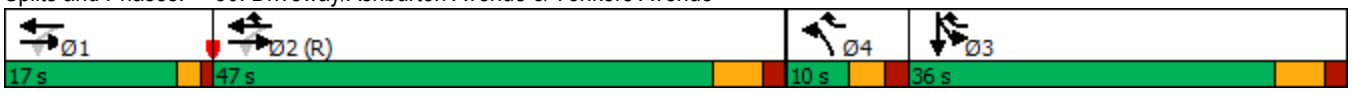
Intersection Summary

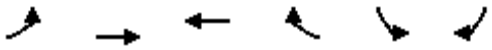
Analysis Period (min) 15

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

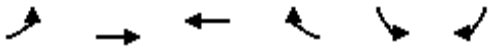
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 30: Driveway/Ashburton Avenue & Yonkers Avenue





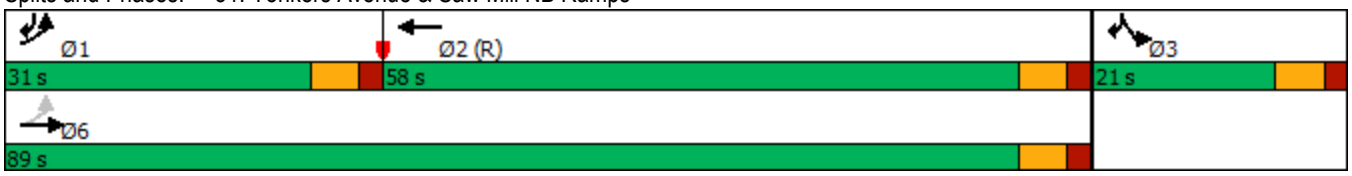
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	313	1326	1347	159	66	386
Future Volume (vph)	313	1326	1347	159	66	386
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	11	16	11
Storage Length (ft)	180			0	0	0
Storage Lanes	1			1	1	1
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1805	3539	3421	1561	2046	1561
Flt Permitted	0.069				0.950	
Satd. Flow (perm)	131	3539	3421	1561	2046	1561
Right Turn on Red				No		Yes
Satd. Flow (RTOR)						18
Link Speed (mph)		30	30		30	
Link Distance (ft)		399	747		226	
Travel Time (s)		9.1	17.0		5.1	
Peak Hour Factor	0.89	0.89	0.95	0.95	0.92	0.92
Heavy Vehicles (%)	0%	2%	2%	0%	0%	0%
Adj. Flow (vph)	352	1490	1418	167	72	420
Shared Lane Traffic (%)						
Lane Group Flow (vph)	352	1490	1418	167	72	420
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		16	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.04	1.04	0.85	1.04
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	2	2	1	1	1
Detector Template	Left	Thru	Thru	Right	Left	Right
Leading Detector (ft)	20	100	100	20	20	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	6	20	20	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94	94			
Detector 2 Size(ft)		6	6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type	pm+pt	NA	NA	Free	Prot	pt+ov



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Protected Phases	1	6	2		3	1 3
Permitted Phases	6			Free		
Detector Phase	1	6	2		3	1 3
Switch Phase						
Minimum Initial (s)	5.0	10.0	10.0		5.0	
Minimum Split (s)	11.0	16.0	16.0		11.0	
Total Split (s)	31.0	89.0	58.0		21.0	
Total Split (%)	28.2%	80.9%	52.7%		19.1%	
Maximum Green (s)	25.0	83.0	52.0		15.0	
Yellow Time (s)	4.0	4.0	4.0		4.0	
All-Red Time (s)	2.0	2.0	2.0		2.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	
Total Lost Time (s)	6.0	6.0	6.0		6.0	
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Recall Mode	Max	Max	C-Max		Max	
Act Effct Green (s)	83.0	83.0	52.0	110.0	15.0	46.0
Actuated g/C Ratio	0.75	0.75	0.47	1.00	0.14	0.42
v/c Ratio	0.73	0.56	0.88	0.11	0.26	0.63
Control Delay	34.3	5.7	45.8	0.1	45.3	29.4
Queue Delay	0.0	0.3	0.0	0.0	0.0	0.0
Total Delay	34.3	5.9	45.8	0.1	45.3	29.4
LOS	C	A	D	A	D	C
Approach Delay		11.4	41.0		31.7	
Approach LOS		B	D		C	
Queue Length 50th (ft)	202	226	554	0	46	221
Queue Length 95th (ft)	m243	m243	634	0	91	331
Internal Link Dist (ft)		319	667		146	
Turn Bay Length (ft)	180					
Base Capacity (vph)	479	2670	1617	1561	279	663
Starvation Cap Reductn	0	484	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	0.73	0.68	0.88	0.11	0.26	0.63

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 13 (12%), Referenced to phase 2:WBT, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.88			
Intersection Signal Delay: 25.9		Intersection LOS: C	
Intersection Capacity Utilization 73.7%		ICU Level of Service D	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 31: Yonkers Avenue & Saw Mill NB Ramps

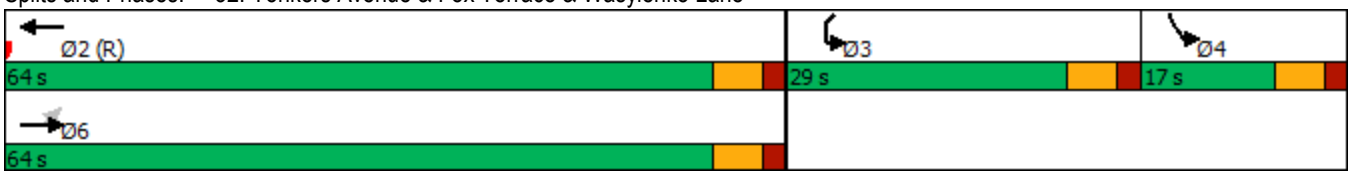


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	SWL	SWR
Lane Configurations								
Traffic Volume (vph)	4	1388	1495	7	0	1	11	10
Future Volume (vph)	4	1388	1495	7	0	1	11	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	14	13	13	16	16	11	11
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00
Frt			0.999		0.865		0.935	
Flt Protected							0.975	
Satd. Flow (prot)	0	3753	3654	0	1826	0	1642	0
Flt Permitted		0.951					0.975	
Satd. Flow (perm)	0	3569	3654	0	1826	0	1642	0
Right Turn on Red						Yes		
Satd. Flow (RTOR)					303			
Link Speed (mph)		30	30		30		30	
Link Distance (ft)		747	1476		229		311	
Travel Time (s)		17.0	33.5		5.2		7.1	
Peak Hour Factor	0.89	0.89	0.95	0.95	0.92	0.92	0.92	0.92
Bus Blockages (#/hr)	0	3	0	0	0	0	0	0
Adj. Flow (vph)	4	1560	1574	7	0	1	12	11
Shared Lane Traffic (%)								
Lane Group Flow (vph)	0	1564	1581	0	1	0	23	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right	Left	Right
Median Width(ft)		0	0		16		11	
Link Offset(ft)		0	0		0		0	
Crosswalk Width(ft)		16	16		16		16	
Two way Left Turn Lane								
Headway Factor	1.04	0.93	0.96	0.96	0.85	0.85	1.04	1.04
Turning Speed (mph)	15			9	15	9	15	9
Number of Detectors	1	2	2		1		1	
Detector Template	Left	Thru	Thru		Left		Left	
Leading Detector (ft)	20	100	100		20		20	
Trailing Detector (ft)	0	0	0		0		0	
Detector 1 Position(ft)	0	0	0		0		0	
Detector 1 Size(ft)	20	6	6		20		20	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex	
Detector 1 Channel								
Detector 1 Extend (s)	0.0	0.0	0.0		0.0		0.0	
Detector 1 Queue (s)	0.0	0.0	0.0		0.0		0.0	
Detector 1 Delay (s)	0.0	0.0	0.0		0.0		0.0	
Detector 2 Position(ft)		94	94					
Detector 2 Size(ft)		6	6					
Detector 2 Type		Cl+Ex	Cl+Ex					
Detector 2 Channel								
Detector 2 Extend (s)		0.0	0.0					
Turn Type	Perm	NA	NA		Prot		Prot	
Protected Phases		6	2		4		3	
Permitted Phases	6							
Detector Phase	6	6	2		4		3	

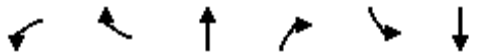
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	SWL	SWR
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0		5.0		5.0	
Minimum Split (s)	16.0	16.0	16.0		11.0		27.0	
Total Split (s)	64.0	64.0	64.0		17.0		29.0	
Total Split (%)	58.2%	58.2%	58.2%		15.5%		26.4%	
Maximum Green (s)	58.0	58.0	58.0		11.0		23.0	
Yellow Time (s)	4.0	4.0	4.0		4.0		4.0	
All-Red Time (s)	2.0	2.0	2.0		2.0		2.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	
Total Lost Time (s)		6.0	6.0		6.0		6.0	
Lead/Lag					Lag		Lead	
Lead-Lag Optimize?					Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	
Recall Mode	Max	Max	C-Max		None		None	
Walk Time (s)							7.0	
Flash Dont Walk (s)							14.0	
Pedestrian Calls (#/hr)							0	
Act Effct Green (s)		99.5	99.5		5.5		7.1	
Actuated g/C Ratio		0.90	0.90		0.05		0.06	
v/c Ratio		0.48	0.48		0.00		0.22	
Control Delay		1.7	7.9		0.0		52.9	
Queue Delay		0.0	0.0		0.0		0.0	
Total Delay		1.7	7.9		0.0		52.9	
LOS		A	A		A		D	
Approach Delay		1.7	7.9				52.9	
Approach LOS		A	A				D	
Queue Length 50th (ft)		0	8		0		16	
Queue Length 95th (ft)		81	462		0		42	
Internal Link Dist (ft)		667	1396		149		231	
Turn Bay Length (ft)								
Base Capacity (vph)		3227	3304		455		343	
Starvation Cap Reductn		3	0		0		0	
Spillback Cap Reductn		0	0		0		0	
Storage Cap Reductn		0	0		0		0	
Reduced v/c Ratio		0.49	0.48		0.00		0.07	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 13 (12%), Referenced to phase 2:WBT, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.48			
Intersection Signal Delay: 5.1		Intersection LOS: A	
Intersection Capacity Utilization 64.9%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 32: Yonkers Avenue & Fox Terrace & Wasylenko Lane



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	168	420	1082	152	278	1121
Future Volume (vph)	168	420	1082	152	278	1121
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	9	11
Storage Length (ft)	0	0		100	180	
Storage Lanes	2	1		1	1	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.91	0.95	1.00	1.00	0.95
Frt	0.917	0.850		0.850		
Flt Protected	0.978				0.950	
Satd. Flow (prot)	3241	1424	3539	1583	1593	3394
Flt Permitted	0.978				0.085	
Satd. Flow (perm)	3241	1424	3539	1583	143	3394
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	229	228		73		
Link Speed (mph)	30		30			30
Link Distance (ft)	520		563			1476
Travel Time (s)	11.8		12.8			33.5
Peak Hour Factor	0.92	0.92	0.95	0.95	0.89	0.89
Bus Blockages (#/hr)	0	3	0	0	0	4
Adj. Flow (vph)	183	457	1139	160	312	1260
Shared Lane Traffic (%)		50%				
Lane Group Flow (vph)	412	228	1139	160	312	1260
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	24		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.02	1.00	1.00	1.14	1.06
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	2	1	1	2
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (ft)	20	20	100	20	20	100
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	6	20	20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Prot	NA	Perm	pm+pt	NA



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Protected Phases	3	3	2		1	6
Permitted Phases				2	6	
Detector Phase	3	3	2	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	38.0	38.0	49.0	49.0	11.0	11.0
Total Split (s)	39.0	39.0	50.0	50.0	21.0	71.0
Total Split (%)	35.5%	35.5%	45.5%	45.5%	19.1%	64.5%
Maximum Green (s)	33.0	33.0	44.0	44.0	15.0	65.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	Ped	Ped	Ped	Ped	Max	C-Max
Walk Time (s)	7.0	7.0	16.0	16.0		
Flash Dont Walk (s)	25.0	25.0	27.0	27.0		
Pedestrian Calls (#/hr)	0	0	0	0		
Act Effct Green (s)	32.0	32.0	44.0	44.0	66.0	66.0
Actuated g/C Ratio	0.29	0.29	0.40	0.40	0.60	0.60
v/c Ratio	0.37	0.40	0.80	0.24	1.05	0.62
Control Delay	14.3	6.1	28.2	6.4	103.8	15.8
Queue Delay	0.0	0.0	0.2	0.0	0.0	0.2
Total Delay	14.3	6.1	28.4	6.4	103.8	16.0
LOS	B	A	C	A	F	B
Approach Delay	11.4		25.7			33.4
Approach LOS	B		C			C
Queue Length 50th (ft)	50	0	391	15	~206	281
Queue Length 95th (ft)	91	62	477	m37	#373	221
Internal Link Dist (ft)	440		483			1396
Turn Bay Length (ft)				100	180	
Base Capacity (vph)	1132	586	1415	677	296	2036
Starvation Cap Reductn	0	0	23	0	0	0
Spillback Cap Reductn	13	0	0	0	0	202
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.37	0.39	0.82	0.24	1.05	0.69

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 0 (0%), Referenced to phase 6:SBTL, Start of Green			
Natural Cycle: 100			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.05			
Intersection Signal Delay: 26.5		Intersection LOS: C	
Intersection Capacity Utilization 69.5%		ICU Level of Service C	

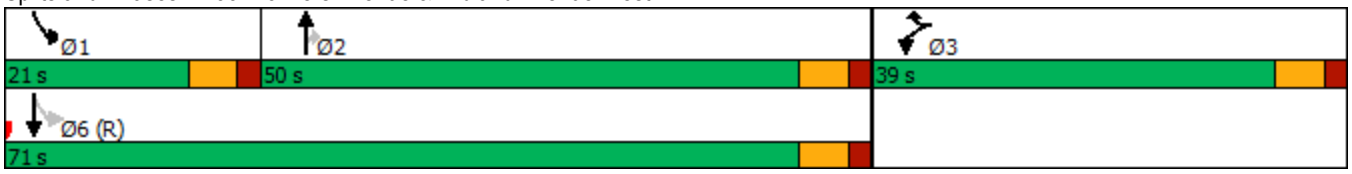
Analysis Period (min) 15

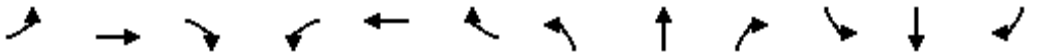
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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.

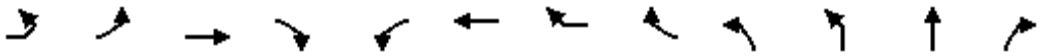
Splits and Phases: 33: Yonkers Avenue & Midland Avenue West





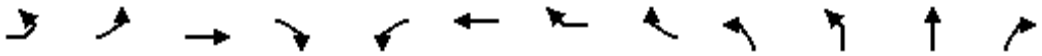
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↱		↑↑							↱
Traffic Volume (vph)	0	1639	379	0	1733	0	0	0	0	0	0	322
Future Volume (vph)	0	1639	379	0	1733	0	0	0	0	0	0	322
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850									0.865
Flt Protected												
Satd. Flow (prot)	0	3539	1615	0	3539	0	0	0	0	0	0	1644
Flt Permitted												
Satd. Flow (perm)	0	3539	1615	0	3539	0	0	0	0	0	0	1644
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		325			399			181			209	
Travel Time (s)		7.4			9.1			4.1			4.8	
Peak Hour Factor	0.89	0.89	0.89	0.95	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	2%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	0	1842	426	0	1824	0	0	0	0	0	0	350
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1842	426	0	1824	0	0	0	0	0	0	350
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			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
Sign Control		Free			Free			Free			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 74.5%		ICU Level of Service D	
Analysis Period (min) 15			



Lane Group	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL2	NBL	NBT	NBR
Lane Configurations												
Traffic Volume (vph)	46	206	24	59	5	14	4	49	27	55	979	12
Future Volume (vph)	46	206	24	59	5	14	4	49	27	55	979	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	12	12	13	13	13	13	12	11	13	13
Storage Length (ft)		0		0	0		0			100		0
Storage Lanes		1		0	0		0			1		0
Taper Length (ft)		25			25					25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	0.95
Frt			0.893			0.900					0.998	
Flt Protected		0.950				0.997				0.950		
Satd. Flow (prot)	0	1711	1663	0	0	1727	0	0	0	1711	3650	0
Flt Permitted		0.755				0.987				0.082		
Satd. Flow (perm)	0	1359	1663	0	0	1710	0	0	0	148	3650	0
Right Turn on Red				Yes				Yes				Yes
Satd. Flow (RTOR)			64			53					2	
Link Speed (mph)			30			30					30	
Link Distance (ft)			264			382					327	
Travel Time (s)			6.0			8.7					7.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.95	0.95	0.95	0.95
Adj. Flow (vph)	50	224	26	64	5	15	4	53	28	58	1031	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	274	90	0	0	77	0	0	0	86	1044	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Left	Right	Right	Left	Left	Left	Right
Median Width(ft)			11			0					12	
Link Offset(ft)			0			0					0	
Crosswalk Width(ft)			16			16					16	
Two way Left Turn Lane												
Headway Factor	1.00	1.04	1.00	1.00	0.96	0.96	0.96	0.96	1.00	1.04	0.96	0.96
Turning Speed (mph)	15	15		9	15		9	9	15	15		9
Number of Detectors	1	1	2		1	2			1	1	2	
Detector Template	Left	Left	Thru		Left	Thru			Left	Left	Thru	
Leading Detector (ft)	20	20	100		20	100			20	20	100	
Trailing Detector (ft)	0	0	0		0	0			0	0	0	
Detector 1 Position(ft)	0	0	0		0	0			0	0	0	
Detector 1 Size(ft)	20	20	6		20	6			20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0			0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0			0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0			0.0	0.0	0.0	
Detector 2 Position(ft)			94			94					94	
Detector 2 Size(ft)			6			6					6	
Detector 2 Type			Cl+Ex			Cl+Ex					Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)			0.0			0.0					0.0	
Turn Type		Perm	NA		Perm	NA				pm+pt	NA	
Protected Phases			3			3				1	6	

Lane Group	SBL	SBT	SBR	SBR2
Lane Configurations				
Traffic Volume (vph)	41	821	190	237
Future Volume (vph)	41	821	190	237
Ideal Flow (vphpl)	1900	1900	1900	1900
Lane Width (ft)	12	12	12	16
Storage Length (ft)	150		210	
Storage Lanes	1		0	
Taper Length (ft)	25			
Lane Util. Factor	1.00	0.95	0.95	0.95
Frt		0.949		
Flt Protected	0.950			
Satd. Flow (prot)	1770	3359	0	0
Flt Permitted	0.274			
Satd. Flow (perm)	510	3359	0	0
Right Turn on Red				Yes
Satd. Flow (RTOR)		30		
Link Speed (mph)		30		
Link Distance (ft)		563		
Travel Time (s)		12.8		
Peak Hour Factor	0.89	0.89	0.89	0.89
Adj. Flow (vph)	46	922	213	266
Shared Lane Traffic (%)				
Lane Group Flow (vph)	46	1401	0	0
Enter Blocked Intersection	No	No	No	No
Lane Alignment	Left	Left	Right	Right
Median Width(ft)		12		
Link Offset(ft)		0		
Crosswalk Width(ft)		16		
Two way Left Turn Lane				
Headway Factor	1.00	1.00	1.00	0.85
Turning Speed (mph)	15		9	9
Number of Detectors	1	2		
Detector Template	Left	Thru		
Leading Detector (ft)	20	100		
Trailing Detector (ft)	0	0		
Detector 1 Position(ft)	0	0		
Detector 1 Size(ft)	20	6		
Detector 1 Type	Cl+Ex	Cl+Ex		
Detector 1 Channel				
Detector 1 Extend (s)	0.0	0.0		
Detector 1 Queue (s)	0.0	0.0		
Detector 1 Delay (s)	0.0	0.0		
Detector 2 Position(ft)		94		
Detector 2 Size(ft)		6		
Detector 2 Type		Cl+Ex		
Detector 2 Channel				
Detector 2 Extend (s)		0.0		
Turn Type	Perm	NA		
Protected Phases		2		



Lane Group	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL2	NBL	NBT	NBR
Permitted Phases		3			3					6		
Detector Phase		3	3		3	3				1	6	
Switch Phase												
Minimum Initial (s)		5.0	5.0		5.0	5.0				5.0	5.0	
Minimum Split (s)		39.0	39.0		39.0	39.0				11.0	69.0	
Total Split (s)		40.0	40.0		40.0	40.0				21.0	70.0	
Total Split (%)		36.4%	36.4%		36.4%	36.4%				19.1%	63.6%	
Maximum Green (s)		34.0	34.0		34.0	34.0				15.0	64.0	
Yellow Time (s)		4.0	4.0		4.0	4.0				4.0	4.0	
All-Red Time (s)		2.0	2.0		2.0	2.0				2.0	2.0	
Lost Time Adjust (s)		0.0	0.0			0.0				0.0	0.0	
Total Lost Time (s)		6.0	6.0			6.0				6.0	6.0	
Lead/Lag										Lead		
Lead-Lag Optimize?										Yes		
Vehicle Extension (s)		3.0	3.0		3.0	3.0				3.0	3.0	
Recall Mode		Ped	Ped		Ped	Ped				Max	C-Max	
Walk Time (s)		5.0	5.0		5.0	5.0					38.0	
Flash Dont Walk (s)		28.0	28.0		28.0	28.0					25.0	
Pedestrian Calls (#/hr)		0	0		0	0					0	
Act Effct Green (s)		33.2	33.2			33.2				64.8	64.8	
Actuated g/C Ratio		0.30	0.30			0.30				0.59	0.59	
v/c Ratio		0.67	0.16			0.14				0.28	0.49	
Control Delay		42.8	11.5			12.2				12.7	14.0	
Queue Delay		0.0	0.0			0.0				0.0	0.0	
Total Delay		42.8	11.5			12.2				12.7	14.0	
LOS		D	B			B				B	B	
Approach Delay			35.1			12.2					13.9	
Approach LOS			D			B					B	
Queue Length 50th (ft)		169	13			12				25	207	
Queue Length 95th (ft)		263	50			47				51	265	
Internal Link Dist (ft)			184			302					247	
Turn Bay Length (ft)										100		
Base Capacity (vph)		420	558			565				311	2150	
Starvation Cap Reductn		0	0			0				0	0	
Spillback Cap Reductn		0	0			1				0	97	
Storage Cap Reductn		0	0			0				0	0	
Reduced v/c Ratio		0.65	0.16			0.14				0.28	0.51	

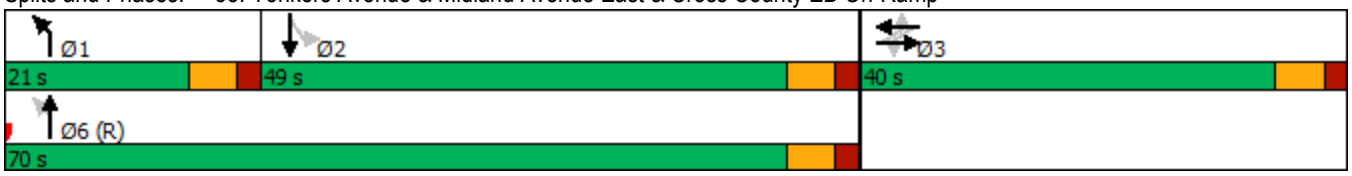
Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 0 (0%), Referenced to phase 6:NBTL, Start of Green			
Natural Cycle: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.05			
Intersection Signal Delay: 38.8		Intersection LOS: D	
Intersection Capacity Utilization 76.5%		ICU Level of Service D	
Analysis Period (min) 15			

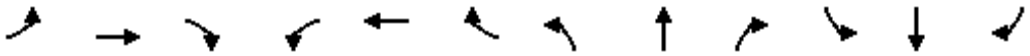
Lane Group	SBL	SBT	SBR	SBR2
Permitted Phases	2			
Detector Phase	2	2		
Switch Phase				
Minimum Initial (s)	5.0	5.0		
Minimum Split (s)	48.0	48.0		
Total Split (s)	49.0	49.0		
Total Split (%)	44.5%	44.5%		
Maximum Green (s)	43.0	43.0		
Yellow Time (s)	4.0	4.0		
All-Red Time (s)	2.0	2.0		
Lost Time Adjust (s)	0.0	0.0		
Total Lost Time (s)	6.0	6.0		
Lead/Lag	Lag	Lag		
Lead-Lag Optimize?	Yes	Yes		
Vehicle Extension (s)	3.0	3.0		
Recall Mode	Ped	Ped		
Walk Time (s)	20.0	20.0		
Flash Dont Walk (s)	22.0	22.0		
Pedestrian Calls (#/hr)	0	0		
Act Effct Green (s)	43.0	43.0		
Actuated g/C Ratio	0.39	0.39		
v/c Ratio	0.23	1.05		
Control Delay	19.1	62.1		
Queue Delay	0.0	0.0		
Total Delay	19.1	62.1		
LOS	B	E		
Approach Delay		60.7		
Approach LOS		E		
Queue Length 50th (ft)	14	~547		
Queue Length 95th (ft)	m28	#672		
Internal Link Dist (ft)		483		
Turn Bay Length (ft)	150			
Base Capacity (vph)	199	1331		
Starvation Cap Reductn	0	0		
Spillback Cap Reductn	0	0		
Storage Cap Reductn	0	0		
Reduced v/c Ratio	0.23	1.05		

Intersection Summary

~ 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: 35: Yonkers Avenue & Midland Avenue East & Cross County EB On-Ramp



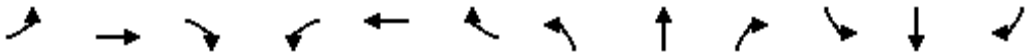


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	615	63	178	369	227	0	0	0	0	0	0
Future Volume (vph)	53	615	63	178	369	227	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	16	16	16	16	16	16	16	16	16	16	16	16
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.987			0.943							
Flt Protected		0.996		0.950								
Satd. Flow (prot)	0	3943	0	2006	1991	0	0	0	0	0	0	0
Flt Permitted		0.996		0.950								
Satd. Flow (perm)	0	3943	0	2006	1991	0	0	0	0	0	0	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		256			511			286			516	
Travel Time (s)		5.8			11.6			6.5			11.7	
Peak Hour Factor	0.90	0.90	0.90	0.81	0.81	0.81	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	59	683	70	220	456	280	0	0	0	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	812	0	220	736	0	0	0	0	0	0	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)		12			24			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 60.5%		ICU Level of Service B	
Analysis Period (min) 15			

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	658	34	67	532	23	29
Future Volume (vph)	658	34	67	532	23	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	14	14	13	13
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.993				0.924	
Flt Protected				0.994	0.979	
Satd. Flow (prot)	1565	0	0	1975	1524	0
Flt Permitted				0.994	0.979	
Satd. Flow (perm)	1565	0	0	1975	1524	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	208			436	1494	
Travel Time (s)	4.7			9.9	34.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Parking (#/hr)	5				5	
Adj. Flow (vph)	715	37	73	578	25	32
Shared Lane Traffic (%)						
Lane Group Flow (vph)	752	0	0	651	57	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	13	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.24	1.04	0.92	0.92	1.14	0.96
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 81.7%		ICU Level of Service D	
Analysis Period (min) 15			

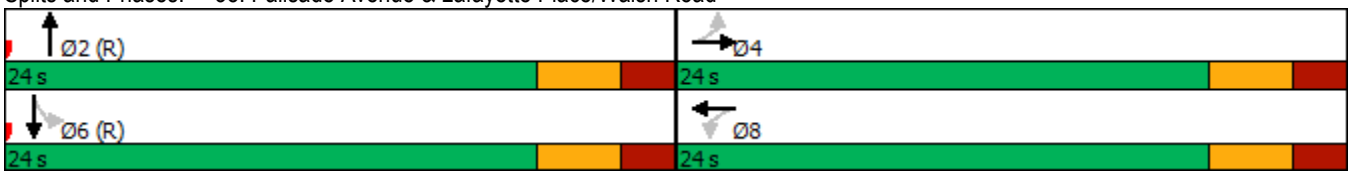


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	5	15	59	0	28	0	258	38	27	342	0
Future Volume (vph)	15	5	15	59	0	28	0	258	38	27	342	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	15	15	15	13	13	13	16	16	16	16	16	16
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		0.942			0.957			0.983				
Flt Protected		0.979			0.967						0.996	
Satd. Flow (prot)	0	1653	0	0	1781	0	0	1801	0	0	1825	0
Flt Permitted		0.901			0.818						0.960	
Satd. Flow (perm)	0	1522	0	0	1507	0	0	1801	0	0	1759	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16			45			18				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		226			227			1248			549	
Travel Time (s)		5.1			5.2			28.4			12.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Bus Blockages (#/hr)	0	0	0	0	0	0	0	2	0	0	2	0
Parking (#/hr)		5						5			5	
Adj. Flow (vph)	16	5	16	64	0	30	0	280	41	29	372	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	37	0	0	94	0	0	321	0	0	401	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	0.88	1.05	0.88	0.96	0.96	0.96	0.85	1.02	0.85	0.85	1.02	0.85
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA			NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8						6		
Minimum Split (s)	10.0	10.0		10.0	10.0			10.0		10.0	10.0	
Total Split (s)	24.0	24.0		24.0	24.0			24.0		24.0	24.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%			50.0%		50.0%	50.0%	
Maximum Green (s)	19.0	19.0		19.0	19.0			19.0		19.0	19.0	
Yellow Time (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0			2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		19.0			19.0			19.0			19.0	
Actuated g/C Ratio		0.40			0.40			0.40			0.40	
v/c Ratio		0.06			0.15			0.44			0.58	
Control Delay		6.9			6.5			12.4			15.4	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		6.9			6.5			12.4			15.4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS		A			A			B			B	
Approach Delay		6.9			6.5			12.4			15.4	
Approach LOS		A			A			B			B	
Queue Length 50th (ft)		3			8			58			83	
Queue Length 95th (ft)		16			29			111			152	
Internal Link Dist (ft)		146			147			1168			469	
Turn Bay Length (ft)												
Base Capacity (vph)		612			623			723			696	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.06			0.15			0.44			0.58	

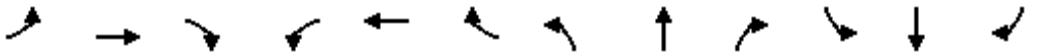
Intersection Summary			
Area Type:	Other		
Cycle Length: 48			
Actuated Cycle Length: 48			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green			
Natural Cycle: 40			
Control Type: Pretimed			
Maximum v/c Ratio: 0.58			
Intersection Signal Delay: 12.9		Intersection LOS: B	
Intersection Capacity Utilization 55.8%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 38: Palisade Avenue & Lafayette Place/Walsh Road



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	448	92	21	406	0	0	0	0
Future Volume (vph)	0	0	0	0	448	92	21	406	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	16	16	16	16	16	16	12	12	12
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					0.977							
Flt Protected								0.998				
Satd. Flow (prot)	0	0	0	0	2063	0	0	1879	0	0	0	0
Flt Permitted								0.998				
Satd. Flow (perm)	0	0	0	0	2063	0	0	1879	0	0	0	0
Right Turn on Red			Yes			No			No			Yes
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		81			430			212			254	
Travel Time (s)		1.8			9.8			4.8			5.8	
Peak Hour Factor	0.92	0.92	0.92	0.83	0.83	0.83	0.92	0.92	0.92	0.92	0.92	0.92
Bus Blockages (#/hr)	0	0	0	0	0	0	0	27	0	0	0	0
Adj. Flow (vph)	0	0	0	0	540	111	23	441	0	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	651	0	0	464	0	0	0	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	0.85	0.85	0.85	0.85	0.99	0.85	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors					2		1	2				
Detector Template					Thru		Left	Thru				
Leading Detector (ft)					100		20	100				
Trailing Detector (ft)					0		0	0				
Detector 1 Position(ft)					0		0	0				
Detector 1 Size(ft)					6		20	6				
Detector 1 Type					Cl+Ex		Cl+Ex	Cl+Ex				
Detector 1 Channel												
Detector 1 Extend (s)					0.0		0.0	0.0				
Detector 1 Queue (s)					0.0		0.0	0.0				
Detector 1 Delay (s)					0.0		0.0	0.0				
Detector 2 Position(ft)					94			94				
Detector 2 Size(ft)					6			6				
Detector 2 Type					Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0				
Turn Type					NA		Perm	NA				
Protected Phases					1			3				
Permitted Phases							3					
Detector Phase					1		3	3				

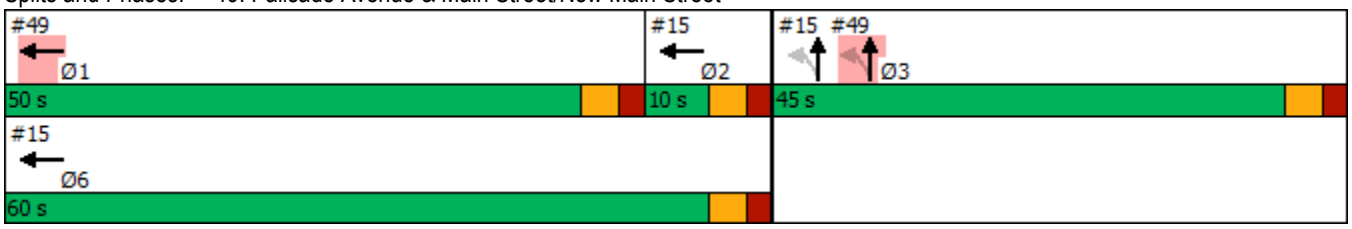
Lane Group	Ø2	Ø6
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Lane Width (ft)		
Lane Util. Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Peak Hour Factor		
Bus Blockages (#/hr)		
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)		
Number of Detectors		
Detector Template		
Leading Detector (ft)		
Trailing Detector (ft)		
Detector 1 Position(ft)		
Detector 1 Size(ft)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Detector 2 Position(ft)		
Detector 2 Size(ft)		
Detector 2 Type		
Detector 2 Channel		
Detector 2 Extend (s)		
Turn Type		
Protected Phases	2	6
Permitted Phases		
Detector Phase		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)					5.0		5.0	5.0				
Minimum Split (s)					50.0		45.0	45.0				
Total Split (s)					50.0		45.0	45.0				
Total Split (%)					47.6%		42.9%	42.9%				
Maximum Green (s)					45.0		40.0	40.0				
Yellow Time (s)					3.0		3.0	3.0				
All-Red Time (s)					2.0		2.0	2.0				
Lost Time Adjust (s)					0.0			0.0				
Total Lost Time (s)					5.0			5.0				
Lead/Lag					Lead							
Lead-Lag Optimize?					Yes							
Vehicle Extension (s)					3.0		3.0	3.0				
Recall Mode					Ped		Ped	Ped				
Walk Time (s)					35.0		30.0	30.0				
Flash Dont Walk (s)					10.0		10.0	10.0				
Pedestrian Calls (#/hr)					0		0	0				
Act Effct Green (s)					45.0			40.0				
Actuated g/C Ratio					0.43			0.38				
v/c Ratio					0.74			0.65				
Control Delay					31.2			31.9				
Queue Delay					0.0			0.0				
Total Delay					31.2			31.9				
LOS					C			C				
Approach Delay					31.2			31.9				
Approach LOS					C			C				
Queue Length 50th (ft)					357			253				
Queue Length 95th (ft)					438			365				
Internal Link Dist (ft)		1			350			132			174	
Turn Bay Length (ft)												
Base Capacity (vph)					884			715				
Starvation Cap Reductn					0			0				
Spillback Cap Reductn					0			0				
Storage Cap Reductn					0			0				
Reduced v/c Ratio					0.74			0.65				

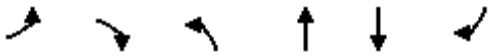
Intersection Summary			
Area Type:	Other		
Cycle Length: 105			
Actuated Cycle Length: 105			
Natural Cycle: 105			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.74			
Intersection Signal Delay: 31.5		Intersection LOS: C	
Intersection Capacity Utilization 60.0%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 49: Palisade Avenue & Main Street/New Main Street



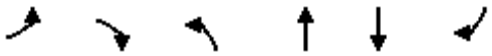
Lane Group	Ø2	Ø6
Switch Phase		
Minimum Initial (s)	2.0	5.0
Minimum Split (s)	7.0	10.0
Total Split (s)	10.0	60.0
Total Split (%)	10%	57%
Maximum Green (s)	5.0	55.0
Yellow Time (s)	3.0	3.0
All-Red Time (s)	2.0	2.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lag	
Lead-Lag Optimize?	Yes	
Vehicle Extension (s)	3.0	3.0
Recall Mode	Max	Max
Walk Time (s)		
Flash Dont Walk (s)		
Pedestrian Calls (#/hr)		
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		

Intersection Summary



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	94	74	0
Future Volume (vph)	0	0	0	94	74	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	1863	0	0	1863	1863	0
Flt Permitted						
Satd. Flow (perm)	1863	0	0	1863	1863	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	126			499	1494	
Travel Time (s)	2.9			11.3	34.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	102	80	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	102	80	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			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)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 8.3%		ICU Level of Service A	
Analysis Period (min) 15			



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	394	631	0
Future Volume (vph)	0	0	0	394	631	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	1863	0	0	1863	1863	0
Flt Permitted						
Satd. Flow (perm)	1863	0	0	1863	1863	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	172			284	235	
Travel Time (s)	3.9			6.5	5.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	428	686	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	428	686	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			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)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 36.5%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	199	82	0	199	0	93	0	0	14	0	7
Future Vol, veh/h	0	199	82	0	199	0	93	0	0	14	0	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	86	86	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	8	8	6	6	2	2	2	2	2	2	2
Mvmt Flow	0	231	95	0	216	0	101	0	0	15	0	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	326	0	0	499	-	-	495	542	216
Stage 1	-	-	-	-	-	-	279	-	-	216	216	-
Stage 2	-	-	-	-	-	-	220	-	-	279	326	-
Critical Hdwy	-	-	-	4.16	-	-	7.12	-	-	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	-	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	-	-	6.12	5.52	-
Follow-up Hdwy	-	-	-	2.254	-	-	3.518	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	0	-	-	1211	-	0	482	0	0	485	447	824
Stage 1	0	-	-	-	-	0	728	0	0	786	724	-
Stage 2	0	-	-	-	-	0	782	0	0	728	648	-
Platoon blocked, %		-	-		-				-			
Mov Cap-1 Maneuver	-	-	-	1211	-	-	478	-	-	485	447	824
Mov Cap-2 Maneuver	-	-	-	-	-	-	478	-	-	485	447	-
Stage 1	-	-	-	-	-	-	728	-	-	786	724	-
Stage 2	-	-	-	-	-	-	775	-	-	728	648	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	14.5	11.7
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	478	-	-	1211	-	562
HCM Lane V/C Ratio	0.211	-	-	-	-	0.041
HCM Control Delay (s)	14.5	-	-	0	-	11.7
HCM Lane LOS	B	-	-	A	-	B
HCM 95th %tile Q(veh)	0.8	-	-	0	-	0.1

Intersection	
Int Delay, s/veh	7.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	145	0	0	0	0	24	89	87	49	0	33
Future Vol, veh/h	4	145	0	0	0	0	24	89	87	49	0	33
Conflicting Peds, #/hr	0	0	33	0	0	35	0	0	16	0	0	38
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	92	92	92	83	83	83	90	90	90
Heavy Vehicles, %	10	10	10	2	2	2	7	7	7	2	2	2
Mvmt Flow	5	171	0	0	0	0	29	107	105	54	0	37

Major/Minor	Major1			Minor1			Minor2		
Conflicting Flow All	0	0	-	238	181	187	303	181	38
Stage 1	-	-	-	181	181	-	0	0	-
Stage 2	-	-	-	57	0	-	303	181	-
Critical Hdwy	4.2	-	-	7.17	6.57	6.27	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	6.17	5.57	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-
Follow-up Hdwy	2.29	-	-	3.563	4.063	3.363	3.518	4.018	3.318
Pot Cap-1 Maneuver	-	-	0	706	704	842	649	713	1034
Stage 1	-	-	0	809	740	-	-	-	-
Stage 2	-	-	0	-	-	-	706	750	-
Platoon blocked, %		-							
Mov Cap-1 Maneuver	-	-	-	657	704	842	502	713	1000
Mov Cap-2 Maneuver	-	-	-	657	704	-	502	713	-
Stage 1	-	-	-	809	740	-	-	-	-
Stage 2	-	-	-	-	-	-	529	750	-

Approach	EB	NB	SB
HCM Control Delay, s		12	11.7
HCM LOS		B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	SBLn1
Capacity (veh/h)	751	-	-	628
HCM Lane V/C Ratio	0.321	-	-	0.145
HCM Control Delay (s)	12	-	-	11.7
HCM Lane LOS	B	-	-	B
HCM 95th %tile Q(veh)	1.4	-	-	0.5

Intersection	
Int Delay, s/veh	5.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	233	0	0	389	0	0
Future Vol, veh/h	233	0	0	389	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	16979	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	253	0	0	423	0	0

Major/Minor	Minor2		Major1	
Conflicting Flow All	423	-	-	0
Stage 1	0	-	-	-
Stage 2	423	-	-	-
Critical Hdwy	6.42	-	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-
Follow-up Hdwy	3.518	-	-	-
Pot Cap-1 Maneuver	588	0	0	-
Stage 1	-	0	0	-
Stage 2	661	0	0	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	588	-	-	-
Mov Cap-2 Maneuver	588	-	-	-
Stage 1	-	-	-	-
Stage 2	661	-	-	-

Approach	EB	NB
HCM Control Delay, s	15.7	0
HCM LOS	C	

Minor Lane/Major Mvmt	NBT	EBLn1
Capacity (veh/h)	-	588
HCM Lane V/C Ratio	-	0.431
HCM Control Delay (s)	-	15.7
HCM Lane LOS	-	C
HCM 95th %tile Q(veh)	-	2.2

Intersection	
Int Delay, s/veh	23.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1574	0	1	1896	50	137
Future Vol, veh/h	1574	0	1	1896	50	137
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	120	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	5	-	-	-5	0	-
Peak Hour Factor	89	89	95	95	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1769	0	1	1996	54	149

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1769	0	2569	885
Stage 1	-	-	-	-	1769	-
Stage 2	-	-	-	-	800	-
Critical Hdwy	-	-	5.34	-	5.74	7.14
Critical Hdwy Stg 1	-	-	-	-	6.64	-
Critical Hdwy Stg 2	-	-	-	-	6.04	-
Follow-up Hdwy	-	-	3.12	-	3.82	3.92
Pot Cap-1 Maneuver	-	-	164	-	~ 46	247
Stage 1	-	-	-	-	80	-
Stage 2	-	-	-	-	365	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	164	-	~ 46	247
Mov Cap-2 Maneuver	-	-	-	-	~ 46	-
Stage 1	-	-	-	-	80	-
Stage 2	-	-	-	-	363	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	$ 450.2
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	114	-	-	164	-
HCM Lane V/C Ratio	1.783	-	-	0.006	-
HCM Control Delay (s)	$ 450.2	-	-	27.1	-
HCM Lane LOS	F	-	-	D	-
HCM 95th %tile Q(veh)	15.9	-	-	0	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	13.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↱		↑↑							↱
Traffic Vol, veh/h	0	1639	379	0	1733	0	0	0	0	0	0	322
Future Vol, veh/h	0	1639	379	0	1733	0	0	0	0	0	0	322
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	16965	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	95	95	95	92	92	92	92	92	92
Heavy Vehicles, %	0	2	0	0	2	0	0	0	0	0	0	0
Mvmt Flow	0	1842	426	0	1824	0	0	0	0	0	0	350

Major/Minor	Major1			Major2					Minor2		
Conflicting Flow All	-	0	0	-	-	0			-	-	912
Stage 1	-	-	-	-	-	-			-	-	-
Stage 2	-	-	-	-	-	-			-	-	-
Critical Hdwy	-	-	-	-	-	-			-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-			-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-			-	-	-
Follow-up Hdwy	-	-	-	-	-	-			-	-	3.3
Pot Cap-1 Maneuver	0	-	-	0	-	0			0	0	~ 280
Stage 1	0	-	-	0	-	0			0	0	-
Stage 2	0	-	-	0	-	0			0	0	-
Platoon blocked, %		-	-		-						
Mov Cap-1 Maneuver	-	-	-	-	-	-			-	0	~ 280
Mov Cap-2 Maneuver	-	-	-	-	-	-			-	0	-
Stage 1	-	-	-	-	-	-			-	0	-
Stage 2	-	-	-	-	-	-			-	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	176.1
HCM LOS			F

Minor Lane/Major Mvmt	EBT	EBR	WBT	SBLn1
Capacity (veh/h)	-	-	-	280
HCM Lane V/C Ratio	-	-	-	1.25
HCM Control Delay (s)	-	-	-	176.1
HCM Lane LOS	-	-	-	F
HCM 95th %tile Q(veh)	-	-	-	16.6

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	1.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	658	34	67	532	23	29
Future Vol, veh/h	658	34	67	532	23	29
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	715	37	73	578	25	32

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	752	0	1458	734
Stage 1	-	-	-	-	734	-
Stage 2	-	-	-	-	724	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	858	-	143	420
Stage 1	-	-	-	-	475	-
Stage 2	-	-	-	-	480	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	858	-	125	420
Mov Cap-2 Maneuver	-	-	-	-	125	-
Stage 1	-	-	-	-	475	-
Stage 2	-	-	-	-	420	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.1	29.1
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	205	-	-	858	-
HCM Lane V/C Ratio	0.276	-	-	0.085	-
HCM Control Delay (s)	29.1	-	-	9.6	0
HCM Lane LOS	D	-	-	A	A
HCM 95th %tile Q(veh)	1.1	-	-	0.3	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	94	74	0
Future Vol, veh/h	0	0	0	94	74	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	102	80	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	182	80	80	0	-	0
Stage 1	80	-	-	-	-	-
Stage 2	102	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	807	980	1518	-	-	-
Stage 1	943	-	-	-	-	-
Stage 2	922	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	807	980	1518	-	-	-
Mov Cap-2 Maneuver	807	-	-	-	-	-
Stage 1	943	-	-	-	-	-
Stage 2	922	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1518	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	394	631	0
Future Vol, veh/h	0	0	0	394	631	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	428	686	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1114	686	686	0	-	0
Stage 1	686	-	-	-	-	-
Stage 2	428	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	230	447	908	-	-	-
Stage 1	500	-	-	-	-	-
Stage 2	657	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	230	447	908	-	-	-
Mov Cap-2 Maneuver	230	-	-	-	-	-
Stage 1	500	-	-	-	-	-
Stage 2	657	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	908	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Intersection Delay, s/veh	53.7
Intersection LOS	F

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	46	11	360	34	115	585
Future Vol, veh/h	46	11	360	34	115	585
Peak Hour Factor	0.91	0.91	0.82	0.82	0.87	0.87
Heavy Vehicles, %	3	3	17	17	7	7
Mvmt Flow	51	12	439	41	132	672
Number of Lanes	1	0	1	0	0	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	1	0
HCM Control Delay	10.9	19.3	77.5
HCM LOS	B	C	F

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	0%	81%	16%
Vol Thru, %	91%	0%	84%
Vol Right, %	9%	19%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	394	57	700
LT Vol	0	46	115
Through Vol	360	0	585
RT Vol	34	11	0
Lane Flow Rate	480	63	805
Geometry Grp	1	1	1
Degree of Util (X)	0.691	0.116	1.079
Departure Headway (Hd)	5.32	6.946	4.829
Convergence, Y/N	Yes	Yes	Yes
Cap	682	519	748
Service Time	3.32	4.946	2.891
HCM Lane V/C Ratio	0.704	0.121	1.076
HCM Control Delay	19.3	10.9	77.5
HCM Lane LOS	C	B	F
HCM 95th-tile Q	5.5	0.4	21.3

Intersection	
Intersection Delay, s/veh	88.3
Intersection LOS	F

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	128	241	153	229	502	129
Future Vol, veh/h	128	241	153	229	502	129
Peak Hour Factor	0.81	0.81	0.82	0.82	0.87	0.87
Heavy Vehicles, %	14	14	13	13	6	6
Mvmt Flow	158	298	187	279	577	148
Number of Lanes	1	1	1	0	0	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	2	0
HCM Control Delay	18.3	31.4	168.8
HCM LOS	C	D	F

Lane	NBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	0%	100%	0%	80%
Vol Thru, %	40%	0%	0%	20%
Vol Right, %	60%	0%	100%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	382	128	241	631
LT Vol	0	128	0	502
Through Vol	153	0	0	129
RT Vol	229	0	241	0
Lane Flow Rate	466	158	298	725
Geometry Grp	2	7	7	2
Degree of Util (X)	0.802	0.355	0.568	1.301
Departure Headway (Hd)	6.671	8.676	7.436	6.457
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	545	417	488	566
Service Time	4.671	6.376	5.136	4.503
HCM Lane V/C Ratio	0.855	0.379	0.611	1.281
HCM Control Delay	31.4	16.1	19.5	168.8
HCM Lane LOS	D	C	C	F
HCM 95th-tile Q	7.7	1.6	3.5	29.9

Intersection	
Intersection Delay, s/veh	64.8
Intersection LOS	F

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	348	329	0	474	0	0
Future Vol, veh/h	348	329	0	474	0	0
Peak Hour Factor	0.97	0.97	0.87	0.87	0.92	0.92
Heavy Vehicles, %	11	2	11	4	2	2
Mvmt Flow	359	339	0	545	0	0
Number of Lanes	1	0	0	1	0	0

Approach	EB	NB
Opposing Approach		
Opposing Lanes	0	0
Conflicting Approach Left		EB
Conflicting Lanes Left	0	1
Conflicting Approach Right	NB	
Conflicting Lanes Right	1	0
HCM Control Delay	85.5	38.2
HCM LOS	F	E

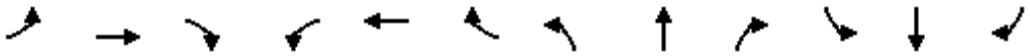
Lane	NBLn1	EBLn1
Vol Left, %	0%	51%
Vol Thru, %	100%	0%
Vol Right, %	0%	49%
Sign Control	Stop	Stop
Traffic Vol by Lane	474	677
LT Vol	0	348
Through Vol	474	0
RT Vol	0	329
Lane Flow Rate	545	698
Geometry Grp	1	1
Degree of Util (X)	0.88	1.091
Departure Headway (Hd)	6.114	5.628
Convergence, Y/N	Yes	Yes
Cap	599	649
Service Time	4.114	3.628
HCM Lane V/C Ratio	0.91	1.076
HCM Control Delay	38.2	85.5
HCM Lane LOS	E	F
HCM 95th-tile Q	10.2	20.2

Intersection	
Intersection Delay, s/veh	13.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	54	343	101	0	0	0	0	40	32	33	41	0
Future Vol, veh/h	54	343	101	0	0	0	0	40	32	33	41	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	59	373	110	0	0	0	0	43	35	36	45	0
Number of Lanes	0	1	0	0	0	0	0	1	0	0	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	14.5	8.7	9.1
HCM LOS	B	A	A

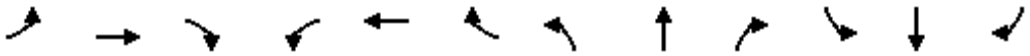
Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	0%	11%	45%
Vol Thru, %	56%	69%	55%
Vol Right, %	44%	20%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	72	498	74
LT Vol	0	54	33
Through Vol	40	343	41
RT Vol	32	101	0
Lane Flow Rate	78	541	80
Geometry Grp	1	1	1
Degree of Util (X)	0.109	0.638	0.12
Departure Headway (Hd)	5.005	4.246	5.353
Convergence, Y/N	Yes	Yes	Yes
Cap	713	850	668
Service Time	3.055	2.272	3.404
HCM Lane V/C Ratio	0.109	0.636	0.12
HCM Control Delay	8.7	14.5	9.1
HCM Lane LOS	A	B	A
HCM 95th-tile Q	0.4	4.7	0.4



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	53	615	63	178	369	227	0	0	0	0	0	0
Future Volume (Veh/h)	53	615	63	178	369	227	0	0	0	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.81	0.81	0.81	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	59	683	70	220	456	280	0	0	0	0	0	0
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	508	0	0	412	0	0	0			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	508	0	0	412	0	0	0			0		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	72	24	94	0	49	74	100			100		
cM capacity (veh/h)	211	896	1085	192	896	1085	1623			1623		

Direction, Lane #	EB 1	EB 2	WB 1	WB 2
Volume Total	400	412	220	736
Volume Left	59	0	220	0
Volume Right	0	70	0	280
cSH	606	923	192	960
Volume to Capacity	0.66	0.45	1.14	0.77
Queue Length 95th (ft)	123	58	274	193
Control Delay (s)	21.7	12.0	159.1	19.9
Lane LOS	C	B	F	C
Approach Delay (s)	16.8		51.9	
Approach LOS	C		F	

Intersection Summary				
Average Delay	35.8			
Intersection Capacity Utilization	60.5%	ICU Level of Service	B	
Analysis Period (min)	15			

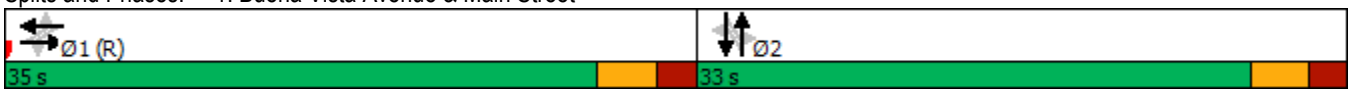


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	45	53	34	49	42	48	219	26	18	214	7
Future Volume (vph)	5	45	53	34	49	42	48	219	26	18	214	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	16	16	16	14	14	14	11	11	11	13	13	13
Storage Length (ft)	150		150	150		150	150		150	150		150
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.95			0.96			0.99			1.00	
Frt		0.930			0.954			0.988			0.996	
Flt Protected		0.998			0.987			0.992			0.996	
Satd. Flow (prot)	0	1582	0	0	1465	0	0	1480	0	0	1687	0
Flt Permitted		0.990			0.912			0.908			0.963	
Satd. Flow (perm)	0	1569	0	0	1353	0	0	1355	0	0	1632	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		113			249			300			234	
Travel Time (s)		2.6			5.7			6.8			5.3	
Confl. Peds. (#/hr)			67			93			107			49
Peak Hour Factor	0.86	0.86	0.86	0.92	0.92	0.92	0.84	0.84	0.84	0.88	0.88	0.88
Heavy Vehicles (%)	2%	2%	2%	6%	6%	6%	2%	2%	2%	11%	11%	11%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	9	0
Parking (#/hr)		10			10			10				
Adj. Flow (vph)	6	52	62	37	53	46	57	261	31	20	243	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	120	0	0	136	0	0	349	0	0	271	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	0.85	1.05	0.85	0.92	1.13	0.92	1.04	1.28	1.04	0.96	1.01	0.96
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		1			1			2			2	
Permitted Phases	1			1			2			2		
Minimum Split (s)	34.0	34.0		34.0	34.0		32.0	32.0		32.0	32.0	
Total Split (s)	35.0	35.0		35.0	35.0		33.0	33.0		33.0	33.0	
Total Split (%)	51.5%	51.5%		51.5%	51.5%		48.5%	48.5%		48.5%	48.5%	
Maximum Green (s)	30.0	30.0		30.0	30.0		28.0	28.0		28.0	28.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag	Lead	Lead		Lead	Lead		Lag	Lag		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)	15.0	15.0		15.0	15.0		15.0	15.0		15.0	15.0	
Flash Dont Walk (s)	14.0	14.0		14.0	14.0		12.0	12.0		12.0	12.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		30.0			30.0			28.0			28.0	
Actuated g/C Ratio		0.44			0.44			0.41			0.41	
v/c Ratio		0.17			0.23			0.63			0.40	
Control Delay		12.4			13.1			22.0			16.4	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		12.4			13.1			22.0			16.4	
LOS		B			B			C			B	
Approach Delay		12.4			13.1			22.0			16.4	
Approach LOS		B			B			C			B	
Queue Length 50th (ft)		29			34			111			77	
Queue Length 95th (ft)		56			68			176			130	
Internal Link Dist (ft)		33			169			220			154	
Turn Bay Length (ft)												
Base Capacity (vph)		692			596			557			672	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.17			0.23			0.63			0.40	

Intersection Summary			
Area Type:	Other		
Cycle Length: 68			
Actuated Cycle Length: 68			
Offset: 0 (0%), Referenced to phase 1:EBWB, Start of Green			
Natural Cycle: 70			
Control Type: Pretimed			
Maximum v/c Ratio: 0.63			
Intersection Signal Delay: 17.6		Intersection LOS: B	
Intersection Capacity Utilization 60.3%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 1: Buena Vista Avenue & Main Street

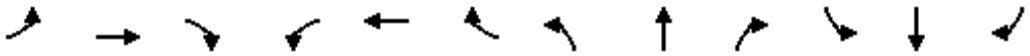


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	55	9	284	13	10	291
Future Volume (vph)	55	9	284	13	10	291
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	16	16	16	16
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.981		0.994			
Flt Protected	0.959					0.998
Satd. Flow (prot)	1426	0	1601	0	0	2008
Flt Permitted	0.959					0.998
Satd. Flow (perm)	1426	0	1601	0	0	2008
Link Speed (mph)	30		30			30
Link Distance (ft)	240		235			300
Travel Time (s)	5.5		5.3			6.8
Confl. Peds. (#/hr)	39			9	23	
Peak Hour Factor	0.91	0.91	0.82	0.82	0.87	0.87
Heavy Vehicles (%)	3%	3%	17%	17%	7%	7%
Parking (#/hr)	10		5			
Adj. Flow (vph)	60	10	346	16	11	334
Shared Lane Traffic (%)						
Lane Group Flow (vph)	70	0	362	0	0	345
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	11		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.28	1.04	1.01	0.85	0.85	0.85
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Stop			Stop

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 33.7%		ICU Level of Service A	
Analysis Period (min) 15			

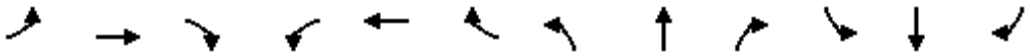
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	83	204	93	137	275	71
Future Volume (vph)	83	204	93	137	275	71
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	15	15	9	9	16	16
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt		0.850	0.919			
Flt Protected	0.950					0.962
Satd. Flow (prot)	1742	1558	1217	0	0	1954
Flt Permitted	0.950					0.962
Satd. Flow (perm)	1742	1558	1217	0	0	1954
Link Speed (mph)	30		30			30
Link Distance (ft)	256		433			284
Travel Time (s)	5.8		9.8			6.5
Confl. Peds. (#/hr)	40			9	27	
Peak Hour Factor	0.81	0.81	0.82	0.82	0.87	0.87
Heavy Vehicles (%)	14%	14%	13%	13%	6%	6%
Parking (#/hr)			5			
Adj. Flow (vph)	102	252	113	167	316	82
Shared Lane Traffic (%)						
Lane Group Flow (vph)	102	252	280	0	0	398
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	20		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	0.88	0.88	1.35	1.14	0.85	0.85
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Stop			Stop

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	47.4%	ICU Level of Service	A
Analysis Period (min)	15		



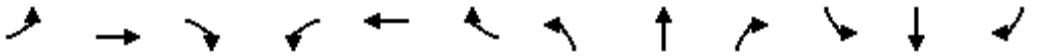
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	80	9	38	94	0	25	0	21	7	0	6
Future Volume (vph)	0	80	9	38	94	0	25	0	21	7	0	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	15	15	15	15	12	12	12	12	12	12	12
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		0.987						0.865			0.937	
Flt Protected					0.986		0.950				0.974	
Satd. Flow (prot)	0	1624	0	0	1652	0	1770	0	0	0	1700	0
Flt Permitted					0.986		0.950				0.974	
Satd. Flow (perm)	0	1624	0	0	1652	0	1770	0	0	0	1700	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		249			526			303			186	
Travel Time (s)		5.7			12.0			6.9			4.2	
Peak Hour Factor	0.92	0.86	0.86	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	8%	8%	6%	6%	2%	2%	2%	2%	2%	2%	2%
Parking (#/hr)		10			10							
Adj. Flow (vph)	0	93	10	41	102	0	27	0	23	8	0	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	103	0	0	143	0	27	23	0	0	15	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			12			12	
Link Offset(ft)		0			0			0			-50	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.09	0.88	0.88	1.09	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
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	Err%	ICU Level of Service	H
Analysis Period (min)	15		

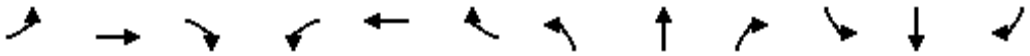


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	15	0	0	0	0	34	38	47	17	0	30
Future Volume (vph)	8	15	0	0	0	0	34	38	47	17	0	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	12	12	12	16	16	16	13	13	13
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt								0.947			0.914	
Flt Protected		0.984						0.986			0.982	
Satd. Flow (prot)	0	1438	0	0	0	0	0	1644	0	0	1728	0
Flt Permitted		0.984						0.986			0.982	
Satd. Flow (perm)	0	1438	0	0	0	0	0	1644	0	0	1728	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		240			538			516			303	
Travel Time (s)		5.5			12.2			11.7			6.9	
Confl. Peds. (#/hr)			33			35			16			38
Peak Hour Factor	0.85	0.85	0.85	0.92	0.92	0.92	0.83	0.83	0.83	0.90	0.90	0.90
Heavy Vehicles (%)	10%	10%	10%	2%	2%	2%	7%	7%	7%	2%	2%	2%
Parking (#/hr)		5						5				
Adj. Flow (vph)	9	18	0	0	0	0	41	46	57	19	0	33
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	27	0	0	0	0	0	144	0	0	52	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	1.04	1.24	1.04	1.00	1.00	1.00	0.85	1.01	0.85	0.96	0.96	0.96
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 29.5%		ICU Level of Service A	
Analysis Period (min) 15			



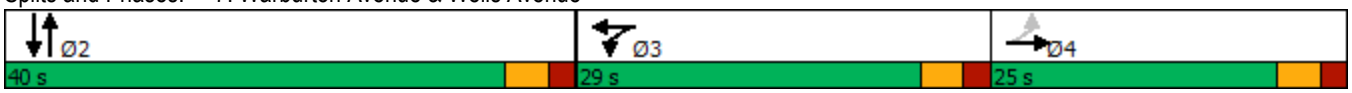
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	0	2	315	0	50	0	202	0	0	284	22
Future Volume (vph)	1	0	2	315	0	50	0	202	0	0	284	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	13	9	9	14	14	14	14	14	14
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.910			0.850						0.990	
Flt Protected		0.984		0.950								
Satd. Flow (prot)	0	1668	0	1554	1425	0	0	1689	0	0	1967	0
Flt Permitted				0.950								
Satd. Flow (perm)	0	1695	0	1554	1425	0	0	1689	0	0	1967	0
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)		81									5	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		49			114			382			684	
Travel Time (s)		1.1			2.6			8.7			15.5	
Peak Hour Factor	0.81	0.81	0.81	0.94	0.94	0.94	0.82	0.82	0.82	0.97	0.97	0.97
Parking (#/hr)				10		5		10				
Adj. Flow (vph)	1	0	2	335	0	53	0	246	0	0	293	23
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	3	0	335	53	0	0	246	0	0	316	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)		13			13			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	1.18	1.14	1.14	0.92	1.13	0.92	0.92	0.92	0.92
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2			2			2	
Detector Template	Left	Thru		Left	Thru			Thru			Thru	
Leading Detector (ft)	20	100		20	100			100			100	
Trailing Detector (ft)	0	0		0	0			0			0	
Detector 1 Position(ft)	0	0		0	0			0			0	
Detector 1 Size(ft)	20	6		20	6			6			6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex			Cl+Ex			Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Split	NA			NA			NA	
Protected Phases		4		3	3			2			2	
Permitted Phases	4											
Detector Phase	4	4		3	3			2			2	

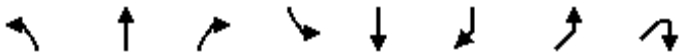


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Minimum Split (s)	24.0	24.0		28.0	28.0			39.0			39.0	
Total Split (s)	25.0	25.0		29.0	29.0			40.0			40.0	
Total Split (%)	26.6%	26.6%		30.9%	30.9%			42.6%			42.6%	
Maximum Green (s)	20.0	20.0		24.0	24.0			35.0			35.0	
Yellow Time (s)	3.0	3.0		3.0	3.0			3.0			3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0			2.0			2.0	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0			0.0	
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	None	None		Ped	Ped			Ped			Ped	
Walk Time (s)	7.0	7.0		11.0	11.0			24.0			24.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0			10.0			10.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)		5.5		23.5	23.5			34.1			34.1	
Actuated g/C Ratio		0.08		0.34	0.34			0.49			0.49	
v/c Ratio		0.01		0.64	0.11			0.30			0.33	
Control Delay		0.0		27.1	17.8			12.6			12.5	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		0.0		27.1	17.8			12.6			12.5	
LOS		A		C	B			B			B	
Approach Delay					25.8			12.6			12.5	
Approach LOS					C			B			B	
Queue Length 50th (ft)		0		113	15			54			69	
Queue Length 95th (ft)		0		#245	45			116			160	
Internal Link Dist (ft)		1			34			302			604	
Turn Bay Length (ft)												
Base Capacity (vph)		547		538	494			854			996	
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		0.01		0.62	0.11			0.29			0.32	

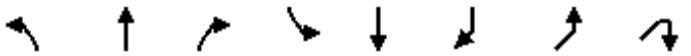
Intersection Summary			
Area Type:	Other		
Cycle Length: 94			
Actuated Cycle Length: 69.5			
Natural Cycle: 95			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.64			
Intersection Signal Delay: 17.9		Intersection LOS: B	
Intersection Capacity Utilization 48.7%		ICU Level of Service A	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 7: Warburton Avenue & Wells Avenue





Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NER2	Ø9
Lane Configurations									
Traffic Volume (vph)	55	191	83	21	535	45	11	21	
Future Volume (vph)	55	191	83	21	535	45	11	21	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	16	16	16	16	12	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Ped Bike Factor		0.94			0.98				
Frt		0.955			0.990		0.912		
Flt Protected	0.950				0.998		0.983		
Satd. Flow (prot)	1703	1367	0	0	1913	0	1656	0	
Flt Permitted	0.367				0.981		0.983		
Satd. Flow (perm)	658	1367	0	0	1880	0	1656	0	
Right Turn on Red			Yes					Yes	
Satd. Flow (RTOR)		27					84		
Link Speed (mph)		30			30		30		
Link Distance (ft)		431			382		174		
Travel Time (s)		9.8			8.7		4.0		
Confl. Peds. (#/hr)			134			139			
Peak Hour Factor	0.94	0.94	0.94	0.93	0.93	0.93	0.81	0.81	
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%	2%	2%	
Bus Blockages (#/hr)	0	0	0	0	8	0	0	0	
Parking (#/hr)		10					5		
Adj. Flow (vph)	59	203	88	23	575	48	14	26	
Shared Lane Traffic (%)									
Lane Group Flow (vph)	59	291	0	0	646	0	40	0	
Enter Blocked Intersection	No	No	No	No	No	No	No	No	
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Right	
Median Width(ft)		12			0		16		
Link Offset(ft)		0			0		80		
Crosswalk Width(ft)		16			16		16		
Two way Left Turn Lane									
Headway Factor	1.00	1.23	1.00	0.85	0.88	0.85	1.01	1.00	
Turning Speed (mph)	15		9	15		9	15	9	
Number of Detectors	1	2		1	2		1		
Detector Template	Left	Thru		Left	Thru		Left		
Leading Detector (ft)	20	100		20	100		20		
Trailing Detector (ft)	0	0		0	0		0		
Detector 1 Position(ft)	0	0		0	0		0		
Detector 1 Size(ft)	20	6		20	6		20		
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex		
Detector 1 Channel									
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0		
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0		
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0		
Detector 2 Position(ft)		94			94				
Detector 2 Size(ft)		6			6				
Detector 2 Type		Cl+Ex			Cl+Ex				
Detector 2 Channel									
Detector 2 Extend (s)		0.0			0.0				



Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NER2	Ø9
Turn Type	Perm	NA		Perm	NA		Prot		
Protected Phases		3			3		1		9
Permitted Phases	3			3					
Detector Phase	3	3		3	3		1		
Switch Phase									
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0		5.0
Minimum Split (s)	13.0	13.0		13.0	13.0		13.0		27.0
Total Split (s)	41.0	41.0		41.0	41.0		23.0		27.0
Total Split (%)	45.1%	45.1%		45.1%	45.1%		25.3%		30%
Maximum Green (s)	33.0	33.0		33.0	33.0		15.0		25.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0		2.0
All-Red Time (s)	4.0	4.0		4.0	4.0		4.0		0.0
Lost Time Adjust (s)	0.0	0.0			0.0		0.0		
Total Lost Time (s)	8.0	8.0			8.0		8.0		
Lead/Lag									
Lead-Lag Optimize?									
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0		3.0
Recall Mode	Max	Max		Max	Max		Max		None
Walk Time (s)									10.0
Flash Dont Walk (s)									15.0
Pedestrian Calls (#/hr)									5
Act Effct Green (s)	33.7	33.7			33.7		15.3		
Actuated g/C Ratio	0.49	0.49			0.49		0.22		
v/c Ratio	0.18	0.43			0.71		0.09		
Control Delay	15.5	15.2			22.2		1.5		
Queue Delay	0.0	0.0			3.0		0.0		
Total Delay	15.5	15.2			25.2		1.5		
LOS	B	B			C		A		
Approach Delay		15.3			25.2		1.5		
Approach LOS		B			C		A		
Queue Length 50th (ft)	11	57			171		0		
Queue Length 95th (ft)	55	203			#577		1		
Internal Link Dist (ft)		351			302		94		
Turn Bay Length (ft)									
Base Capacity (vph)	319	676			911		430		
Starvation Cap Reductn	0	0			166		0		
Spillback Cap Reductn	0	0			0		0		
Storage Cap Reductn	0	0			0		0		
Reduced v/c Ratio	0.18	0.43			0.87		0.09		

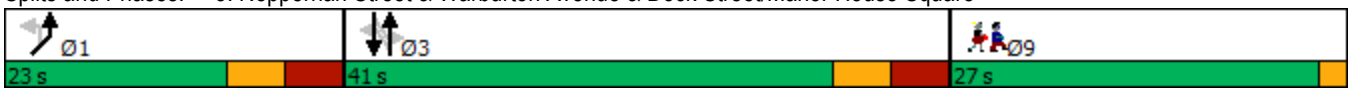
Intersection Summary			
Area Type:	Other		
Cycle Length: 91			
Actuated Cycle Length: 69.4			
Natural Cycle: 75			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.71			
Intersection Signal Delay: 20.9		Intersection LOS: C	
Intersection Capacity Utilization 67.5%		ICU Level of Service C	

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 8: Nepperhan Street & Warburton Avenue & Dock Street/Manor House Square



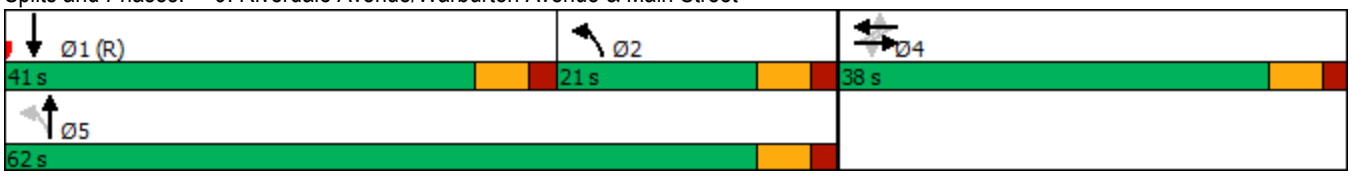
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	38	0	70	219	70	69	12	222	0	0	506	50
Future Volume (vph)	38	0	70	219	70	69	12	222	0	0	506	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	16	16	16	13	15	15	9	13	13	12	12	12
Storage Length (ft)	0		0	0		0	75		0	0		0
Storage Lanes	0		0	1		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Ped Bike Factor		0.94			0.95						0.98	
Frt		0.912			0.925						0.986	
Flt Protected		0.983		0.950			0.950					
Satd. Flow (prot)	0	1332	0	1711	1425	0	1477	3154	0	0	3002	0
Flt Permitted		0.849		0.681			0.340					
Satd. Flow (perm)	0	1151	0	1227	1425	0	529	3154	0	0	3002	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		98			52						11	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		526			497			325			431	
Travel Time (s)		12.0			11.3			7.4			9.8	
Confl. Peds. (#/hr)			82			104			126			103
Peak Hour Factor	0.82	0.82	0.82	0.83	0.83	0.83	0.98	0.98	0.98	0.91	0.91	0.91
Heavy Vehicles (%)	16%	16%	16%	9%	9%	9%	10%	10%	10%	8%	8%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	4	0	0	0	0
Parking (#/hr)		10			10			5			10	
Adj. Flow (vph)	46	0	85	264	84	83	12	227	0	0	556	55
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	131	0	264	167	0	12	227	0	0	611	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			12			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.85	1.05	0.85	0.96	1.09	0.88	1.14	1.05	0.96	1.00	1.11	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2			2	
Detector Template	Left	Thru		Left	Thru		Left	Thru			Thru	
Leading Detector (ft)	20	100		20	100		20	100			100	
Trailing Detector (ft)	0	0		0	0		0	0			0	
Detector 1 Position(ft)	0	0		0	0		0	0			0	
Detector 1 Size(ft)	20	6		20	6		20	6			6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex			Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA			NA	
Protected Phases		4			4		2	5			1	
Permitted Phases	4			4			5					
Detector Phase	4	4		4	4		2	5			1	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0			5.0	
Minimum Split (s)	37.0	37.0		37.0	37.0		11.0	11.0			40.0	
Total Split (s)	38.0	38.0		38.0	38.0		21.0	62.0			41.0	
Total Split (%)	38.0%	38.0%		38.0%	38.0%		21.0%	62.0%			41.0%	
Maximum Green (s)	32.0	32.0		32.0	32.0		15.0	56.0			35.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0			2.0	
Lost Time Adjust (s)		0.0		0.0	0.0		0.0	0.0			0.0	
Total Lost Time (s)		6.0		6.0	6.0		6.0	6.0			6.0	
Lead/Lag							Lag				Lead	
Lead-Lag Optimize?							Yes				Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0			3.0	
Recall Mode	Ped	Ped		Ped	Ped		Max	Max			C-Max	
Walk Time (s)	10.0	10.0		10.0	10.0						18.0	
Flash Dont Walk (s)	21.0	21.0		21.0	21.0						16.0	
Pedestrian Calls (#/hr)	0	0		0	0						0	
Act Effct Green (s)		31.4		31.4	31.4		56.6	56.6			35.6	
Actuated g/C Ratio		0.31		0.31	0.31		0.57	0.57			0.36	
v/c Ratio		0.31		0.69	0.35		0.03	0.13			0.57	
Control Delay		10.5		40.6	20.2		10.2	10.4			28.1	
Queue Delay		0.0		0.0	0.0		0.0	0.0			0.0	
Total Delay		10.5		40.6	20.2		10.2	10.4			28.1	
LOS		B		D	C		B	B			C	
Approach Delay		10.5			32.7			10.4			28.1	
Approach LOS		B			C			B			C	
Queue Length 50th (ft)		15		147	55		3	33			159	
Queue Length 95th (ft)		48		213	98		11	52			220	
Internal Link Dist (ft)		446			417			245			351	
Turn Bay Length (ft)							75					
Base Capacity (vph)		434		392	491		441	1786			1076	
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		0.30		0.67	0.34		0.03	0.13			0.57	

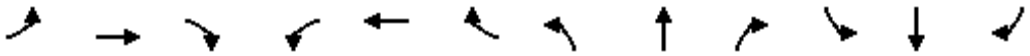
Intersection Summary	
Area Type:	Other
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 0 (0%), Referenced to phase 1:SBT, Start of Green	
Natural Cycle: 90	

Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.69	
Intersection Signal Delay: 24.9	Intersection LOS: C
Intersection Capacity Utilization 83.2%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 9: Riverdale Avenue/Warburton Avenue & Main Street



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	33	19	0	0	0	0	207	170	232	563	0
Future Volume (vph)	27	33	19	0	0	0	0	207	170	232	563	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	16	16	16	12	12	12	11	11	11	9	12	12
Storage Length (ft)	0		0	0		0	0		0	125		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Ped Bike Factor		0.94						0.85				
Frt		0.968						0.932				
Flt Protected		0.983								0.950		
Satd. Flow (prot)	0	1566	0	0	0	0	0	2457	0	1533	3119	0
Flt Permitted		0.983								0.516		
Satd. Flow (perm)	0	1566	0	0	0	0	0	2457	0	832	3119	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		15						181				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		538			379			525			325	
Travel Time (s)		12.2			8.6			11.9			7.4	
Confl. Peds. (#/hr)			178			100			148			55
Peak Hour Factor	0.85	0.85	0.85	0.92	0.92	0.92	0.94	0.94	0.94	0.93	0.93	0.93
Heavy Vehicles (%)	5%	5%	5%	2%	2%	2%	11%	11%	11%	6%	6%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	7	0	0	5	0
Parking (#/hr)		10									10	
Adj. Flow (vph)	32	39	22	0	0	0	0	220	181	249	605	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	93	0	0	0	0	0	401	0	249	605	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			8			8	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.85	1.05	0.85	1.00	1.00	1.00	1.04	1.06	1.04	1.14	1.12	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2						2		1	2	
Detector Template	Left	Thru						Thru		Left	Thru	
Leading Detector (ft)	20	100						100		20	100	
Trailing Detector (ft)	0	0						0		0	0	
Detector 1 Position(ft)	0	0						0		0	0	
Detector 1 Size(ft)	20	6						6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex						Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0						0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0						0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0						0.0		0.0	0.0	
Detector 2 Position(ft)		94						94			94	
Detector 2 Size(ft)		6						6			6	

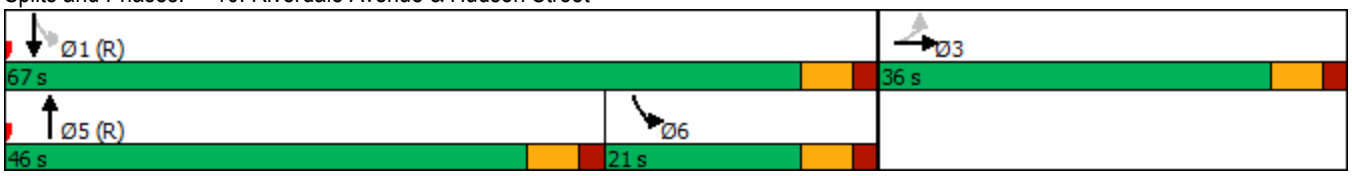


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Type		Cl+Ex						Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0						0.0			0.0	
Turn Type	Perm	NA						NA		pm+pt	NA	
Protected Phases		3						5		6	1	
Permitted Phases	3									1		
Detector Phase	3	3						5		6	1	
Switch Phase												
Minimum Initial (s)	10.0	10.0						5.0		10.0	5.0	
Minimum Split (s)	30.0	30.0						30.0		16.0	30.0	
Total Split (s)	36.0	36.0						46.0		21.0	67.0	
Total Split (%)	35.0%	35.0%						44.7%		20.4%	65.0%	
Maximum Green (s)	30.0	30.0						40.0		15.0	61.0	
Yellow Time (s)	4.0	4.0						4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0						2.0		2.0	2.0	
Lost Time Adjust (s)		0.0						0.0		0.0	0.0	
Total Lost Time (s)		6.0						6.0		6.0	6.0	
Lead/Lag								Lead		Lag		
Lead-Lag Optimize?								Yes		Yes		
Vehicle Extension (s)	3.0	3.0						3.0		3.0	3.0	
Recall Mode	None	None						C-Max		Max	C-Max	
Walk Time (s)	10.0	10.0						10.0			10.0	
Flash Dont Walk (s)	14.0	14.0						14.0			14.0	
Pedestrian Calls (#/hr)	0	0						0			0	
Act Effct Green (s)		11.7						61.5		82.5	83.7	
Actuated g/C Ratio		0.11						0.60		0.80	0.81	
v/c Ratio		0.49						0.26		0.32	0.24	
Control Delay		44.3						6.5		5.4	3.4	
Queue Delay		0.0						0.0		1.1	0.5	
Total Delay		44.3						6.5		6.5	3.9	
LOS		D						A		A	A	
Approach Delay		44.3						6.5			4.6	
Approach LOS		D						A			A	
Queue Length 50th (ft)		49						33		34	45	
Queue Length 95th (ft)		90						65		71	78	
Internal Link Dist (ft)		458			299			445			245	
Turn Bay Length (ft)										125		
Base Capacity (vph)		466						1540		768	2535	
Starvation Cap Reductn		0						0		314	1384	
Spillback Cap Reductn		0						0		0	0	
Storage Cap Reductn		0						0		0	0	
Reduced v/c Ratio		0.20						0.26		0.55	0.53	

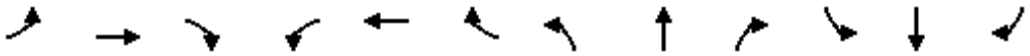
Intersection Summary	
Area Type:	Other
Cycle Length: 103	
Actuated Cycle Length: 103	
Offset: 0 (0%), Referenced to phase 1:SBTL and 5:NBT, Start of Green	
Natural Cycle: 80	

Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.49	
Intersection Signal Delay: 7.9	Intersection LOS: A
Intersection Capacity Utilization 67.8%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 10: Riverdale Avenue & Hudson Street



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	277	49	227	377	133	78	236	305	260	299	23
Future Volume (vph)	8	277	49	227	377	133	78	236	305	260	299	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	16	16	16	12	12	12	10	11	11	10	11	11
Storage Length (ft)	0		0	160		0	100		0	155		0
Storage Lanes	0		0	1		1	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Ped Bike Factor		0.97				0.89		0.96				0.94
Frt		0.978				0.850		0.915				0.850
Flt Protected		0.999		0.950			0.950			0.950		
Satd. Flow (prot)	0	3804	0	1770	1863	1552	1652	2774	0	1652	3421	1531
Flt Permitted		0.942		0.485			0.363			0.430		
Satd. Flow (perm)	0	3587	0	903	1863	1389	631	2774	0	748	3421	1439
Right Turn on Red			Yes			Yes			No			Yes
Satd. Flow (RTOR)		18				145						149
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		511			403			522			525	
Travel Time (s)		11.6			9.2			11.9			11.9	
Confl. Peds. (#/hr)			193			95			64			49
Peak Hour Factor	0.90	0.90	0.90	0.92	0.92	0.92	0.92	0.92	0.92	0.93	0.93	0.93
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0	0	0
Parking (#/hr)								10				
Adj. Flow (vph)	9	308	54	247	410	145	85	257	332	280	322	25
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	371	0	247	410	145	85	589	0	280	322	25
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			10			16	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.85	0.85	0.85	1.00	1.00	1.03	1.09	1.15	1.04	1.09	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	Perm
Protected Phases		7		8	3	6	1	5		6	2	
Permitted Phases	7			3		3	5			2		2
Detector Phase	7	7		8	3	6	1	5		6	2	2
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	39.0	39.0		11.0	39.0	11.0	11.0	39.0		11.0	39.0	39.0
Total Split (s)	39.0	39.0		16.0	55.0	16.0	16.0	39.0		16.0	39.0	39.0
Total Split (%)	35.5%	35.5%		14.5%	50.0%	14.5%	14.5%	35.5%		14.5%	35.5%	35.5%
Maximum Green (s)	33.0	33.0		10.0	49.0	10.0	10.0	33.0		10.0	33.0	33.0
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
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)		0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)		6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0
Lead/Lag	Lead	Lead		Lag		Lag	Lead	Lead		Lag	Lag	Lag
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	3.0
Recall Mode	Ped	Ped		Max	C-Max	Max	Max	Ped		Max	Ped	Ped
Walk Time (s)	7.0	7.0			7.0			15.0			15.0	15.0
Flash Dont Walk (s)	26.0	26.0			26.0			18.0			18.0	18.0
Pedestrian Calls (#/hr)	0	0			0			0			0	0
Act Effct Green (s)		33.0		49.0	49.0	59.0	33.0	33.0		33.0	33.0	33.0
Actuated g/C Ratio		0.30		0.45	0.45	0.54	0.30	0.30		0.30	0.30	0.30
v/c Ratio		0.34		0.51	0.49	0.18	0.30	0.89dr		0.92	0.31	0.05
Control Delay		29.6		8.7	6.7	0.5	31.6	39.7		75.2	30.8	0.2
Queue Delay		0.0		0.1	0.1	0.0	0.0	0.0		48.6	0.0	0.0
Total Delay		29.6		8.8	6.9	0.5	31.6	39.7		123.8	30.8	0.2
LOS		C		A	A	A	C	D		F	C	A
Approach Delay		29.6			6.3			38.7			71.1	
Approach LOS		C			A			D			E	
Queue Length 50th (ft)		101		19	32	0	44	194		166	92	0
Queue Length 95th (ft)		143		28	42	1	84	259		#334	131	0
Internal Link Dist (ft)		431			323			442			445	
Turn Bay Length (ft)				160			100			155		
Base Capacity (vph)		1088		481	829	827	282	832		306	1026	536
Starvation Cap Reductn		0		15	55	0	0	0		0	0	0
Spillback Cap Reductn		0		0	0	0	0	0		63	0	0
Storage Cap Reductn		0		0	0	0	0	0		0	0	0
Reduced v/c Ratio		0.34		0.53	0.53	0.18	0.30	0.71		1.15	0.31	0.05

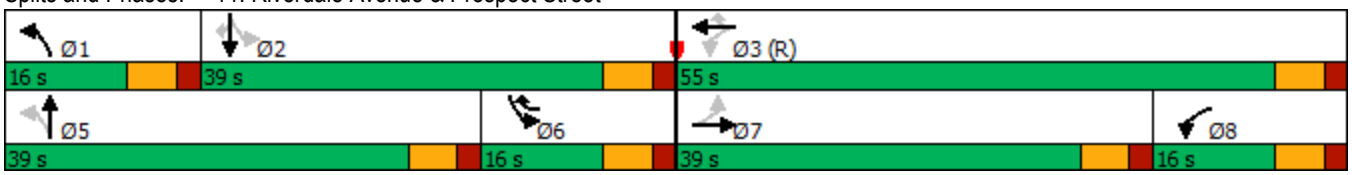
Intersection Summary	
Area Type:	Other
Cycle Length: 110	
Actuated Cycle Length: 110	
Offset: 25 (23%), Referenced to phase 3:WBTL, Start of Green	
Natural Cycle: 100	
Control Type: Actuated-Coordinated	

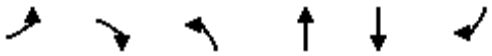
Maximum v/c Ratio: 0.92	
Intersection Signal Delay: 35.1	Intersection LOS: D
Intersection Capacity Utilization 116.9%	ICU Level of Service H
Analysis Period (min) 15	

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

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

Splits and Phases: 11: Riverdale Avenue & Prospect Street





Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	104	0	0	326	0	0
Future Volume (vph)	104	0	0	326	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	16	16	16	16	16	16
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected	0.950					
Satd. Flow (prot)	1705	0	0	1794	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	1705	0	0	1794	0	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	226			563	857	
Travel Time (s)	5.1			12.8	19.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Parking (#/hr)	10			10		
Adj. Flow (vph)	113	0	0	354	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	113	0	0	354	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	16			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.05	0.85	0.85	1.05	0.85	0.85
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 29.6%		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)	0	0	0	0	265	136	93	190	0	0	0	0
Future Volume (vph)	0	0	0	0	265	136	93	190	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	16	16	16	16	16	12	12	12
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					0.954							
Flt Protected								0.984				
Satd. Flow (prot)	0	0	0	0	2014	0	0	2077	0	0	0	0
Flt Permitted								0.984				
Satd. Flow (perm)	0	0	0	0	2014	0	0	2077	0	0	0	0
Right Turn on Red			Yes			Yes	Yes		Yes			Yes
Satd. Flow (RTOR)					37			73				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		497			81			184			563	
Travel Time (s)		11.3			1.8			4.2			12.8	
Peak Hour Factor	0.92	0.92	0.92	0.83	0.83	0.83	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	319	164	101	207	0	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	483	0	0	308	0	0	0	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	0.85	0.85	0.85	0.85	0.85	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors					2		1	2				
Detector Template					Thru		Left	Thru				
Leading Detector (ft)					100		20	100				
Trailing Detector (ft)					0		0	0				
Detector 1 Position(ft)					0		0	0				
Detector 1 Size(ft)					6		20	6				
Detector 1 Type					Cl+Ex		Cl+Ex	Cl+Ex				
Detector 1 Channel												
Detector 1 Extend (s)					0.0		0.0	0.0				
Detector 1 Queue (s)					0.0		0.0	0.0				
Detector 1 Delay (s)					0.0		0.0	0.0				
Detector 2 Position(ft)					94			94				
Detector 2 Size(ft)					6			6				
Detector 2 Type					Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0				
Turn Type					NA		Perm	NA				
Protected Phases					2 6			3				
Permitted Phases							3					
Detector Phase					2 6		3	3				
Switch Phase												

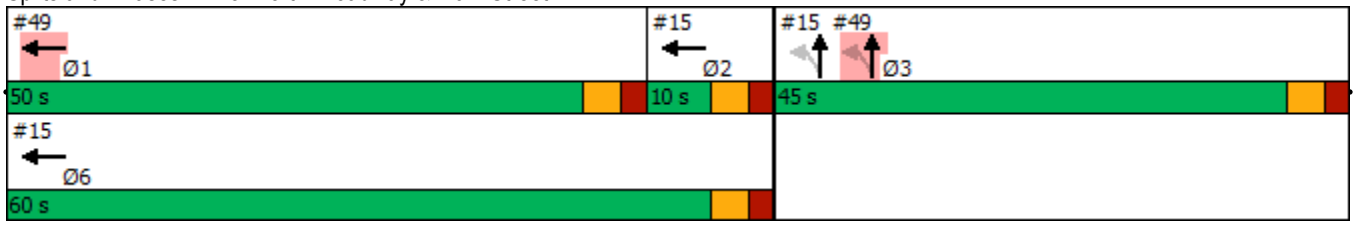
Lane Group	Ø1	Ø2	Ø6
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Lane Width (ft)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
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)			
Number of Detectors			
Detector Template			
Leading Detector (ft)			
Trailing Detector (ft)			
Detector 1 Position(ft)			
Detector 1 Size(ft)			
Detector 1 Type			
Detector 1 Channel			
Detector 1 Extend (s)			
Detector 1 Queue (s)			
Detector 1 Delay (s)			
Detector 2 Position(ft)			
Detector 2 Size(ft)			
Detector 2 Type			
Detector 2 Channel			
Detector 2 Extend (s)			
Turn Type			
Protected Phases	1	2	6
Permitted Phases			
Detector Phase			
Switch Phase			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)							5.0	5.0				
Minimum Split (s)							45.0	45.0				
Total Split (s)							45.0	45.0				
Total Split (%)							42.9%	42.9%				
Maximum Green (s)							40.0	40.0				
Yellow Time (s)							3.0	3.0				
All-Red Time (s)							2.0	2.0				
Lost Time Adjust (s)								0.0				
Total Lost Time (s)								5.0				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)							3.0	3.0				
Recall Mode							Ped	Ped				
Walk Time (s)							30.0	30.0				
Flash Dont Walk (s)							10.0	10.0				
Pedestrian Calls (#/hr)							0	0				
Act Effct Green (s)					55.0			40.0				
Actuated g/C Ratio					0.52			0.38				
v/c Ratio					0.45			0.37				
Control Delay					2.8			19.0				
Queue Delay					0.0			0.0				
Total Delay					2.8			19.0				
LOS					A			B				
Approach Delay					2.8			19.0				
Approach LOS					A			B				
Queue Length 50th (ft)					16			110				
Queue Length 95th (ft)					21			180				
Internal Link Dist (ft)		417			1			104			483	
Turn Bay Length (ft)												
Base Capacity (vph)					1072			836				
Starvation Cap Reductn					0			0				
Spillback Cap Reductn					0			0				
Storage Cap Reductn					0			0				
Reduced v/c Ratio					0.45			0.37				

Intersection Summary

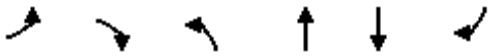
Area Type: Other
Cycle Length: 105
Actuated Cycle Length: 105
Natural Cycle: 105
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.58
Intersection Signal Delay: 9.1 Intersection LOS: A
Intersection Capacity Utilization 45.7% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 15: North Broadway & Main Street



Lane Group	Ø1	Ø2	Ø6
Minimum Initial (s)	5.0	2.0	5.0
Minimum Split (s)	50.0	7.0	10.0
Total Split (s)	50.0	10.0	60.0
Total Split (%)	48%	10%	57%
Maximum Green (s)	45.0	5.0	55.0
Yellow Time (s)	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0
Recall Mode	Ped	Max	Max
Walk Time (s)	35.0		
Flash Dont Walk (s)	10.0		
Pedestrian Calls (#/hr)	0		
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
Queue Length 50th (ft)			
Queue Length 95th (ft)			
Internal Link Dist (ft)			
Turn Bay Length (ft)			
Base Capacity (vph)			
Starvation Cap Reductn			
Spillback Cap Reductn			
Storage Cap Reductn			
Reduced v/c Ratio			

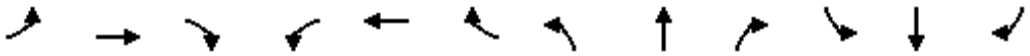
Intersection Summary



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	262	173	0	296	0	0
Future Volume (vph)	262	173	0	296	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	12	16	12	12
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.946					
Flt Protected	0.971					
Satd. Flow (prot)	1712	0	0	1760	0	0
Flt Permitted	0.971					
Satd. Flow (perm)	1712	0	0	1760	0	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	379			514	155	
Travel Time (s)	8.6			11.7	3.5	
Confl. Peds. (#/hr)	268		141			
Peak Hour Factor	0.97	0.97	0.87	0.87	0.92	0.92
Heavy Vehicles (%)	11%	2%	11%	4%	2%	2%
Bus Blockages (#/hr)	3	0	0	0	0	0
Parking (#/hr)				10		
Adj. Flow (vph)	270	178	0	340	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	448	0	0	340	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	14			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	0.93	0.92	1.00	1.05	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Stop	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	47.3%	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)	44	752	46	74	672	66	44	186	40	85	67	21
Future Volume (vph)	44	752	46	74	672	66	44	186	40	85	67	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	13	12	12	12	13	10	16	16	12	16	16
Grade (%)		0%			7%			0%			0%	
Storage Length (ft)	107		0	0		0	120		0	100		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99				0.91		0.99			0.99	
Frt		0.991				0.850		0.973			0.965	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	3493	0	1613	3226	1491	1574	1647	0	1687	1642	0
Flt Permitted	0.165			0.261			0.697			0.503		
Satd. Flow (perm)	304	3493	0	443	3226	1363	1155	1647	0	893	1642	0
Right Turn on Red			No			Yes			No			Yes
Satd. Flow (RTOR)						89					15	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		403			838			623			514	
Travel Time (s)		9.2			19.0			14.2			11.7	
Confl. Peds. (#/hr)			132			49			27			32
Peak Hour Factor	0.89	0.89	0.89	0.95	0.95	0.95	0.93	0.93	0.93	0.94	0.94	0.94
Heavy Vehicles (%)	3%	3%	3%	8%	8%	8%	7%	7%	7%	7%	7%	7%
Bus Blockages (#/hr)	0	7	0	0	0	0	0	1	0	0	6	0
Parking (#/hr)								10			5	
Adj. Flow (vph)	49	845	52	78	707	69	47	200	43	90	71	22
Shared Lane Traffic (%)												
Lane Group Flow (vph)	49	897	0	78	707	69	47	243	0	90	93	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)		12			23			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	0.98	1.00	1.05	1.05	1.00	1.09	1.05	0.85	1.00	1.04	0.85
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	5	1		2	6			3			3	
Permitted Phases	1			6		6	3			3		
Detector Phase	5	1		2	6	6	3	3		3	3	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	11.0	41.0		11.0	46.0	46.0	40.0	40.0		40.0	40.0	
Total Split (s)	14.0	45.0		24.0	55.0	55.0	41.0	41.0		41.0	41.0	
Total Split (%)	12.7%	40.9%		21.8%	50.0%	50.0%	37.3%	37.3%		37.3%	37.3%	
Maximum Green (s)	8.0	39.0		18.0	49.0	49.0	35.0	35.0		35.0	35.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
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)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lead		Lag	Lag	Lag						
Lead-Lag Optimize?	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	Max	Ped		Max	C-Max	C-Max	Ped	Ped		Ped	Ped	
Walk Time (s)		10.0			20.0	20.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		25.0			20.0	20.0	27.0	27.0		27.0	27.0	
Pedestrian Calls (#/hr)		0			0	0	0	0		0	0	
Act Effct Green (s)	37.0	37.0		49.0	49.0	49.0	34.0	34.0		34.0	34.0	
Actuated g/C Ratio	0.34	0.34		0.45	0.45	0.45	0.31	0.31		0.31	0.31	
v/c Ratio	0.22	0.76		0.19	0.49	0.11	0.13	0.48		0.33	0.18	
Control Delay	20.6	31.3		6.9	6.9	0.5	28.7	34.6		33.3	24.3	
Queue Delay	0.0	6.9		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	20.6	38.2		6.9	6.9	0.5	28.7	34.6		33.3	24.3	
LOS	C	D		A	A	A	C	C		C	C	
Approach Delay		37.3			6.4			33.7			28.8	
Approach LOS		D			A			C			C	
Queue Length 50th (ft)	20	286		6	29	0	24	139		49	40	
Queue Length 95th (ft)	m24	m299		m16	m50	m3	54	217		96	81	
Internal Link Dist (ft)		323			758			543			434	
Turn Bay Length (ft)	107						120			100		
Base Capacity (vph)	220	1244		420	1437	656	367	524		284	532	
Starvation Cap Reductn	0	300		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	0.22	0.95		0.19	0.49	0.11	0.13	0.46		0.32	0.17	

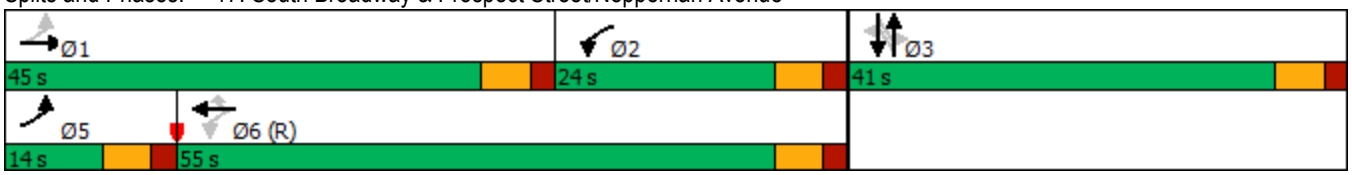
Intersection Summary	
Area Type:	Other
Cycle Length: 110	
Actuated Cycle Length: 110	

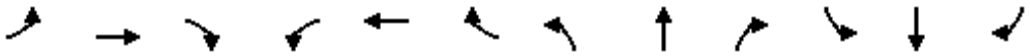
Offset: 15 (14%), Referenced to phase 6:WBTL, Start of Green

Natural Cycle: 100	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.76	
Intersection Signal Delay: 24.5	Intersection LOS: C
Intersection Capacity Utilization 90.5%	ICU Level of Service E
Analysis Period (min) 15	

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

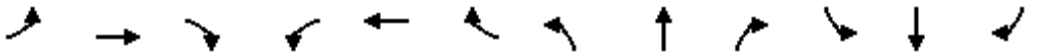
Splits and Phases: 17: South Broadway & Prospect Street/Nepperhan Avenue



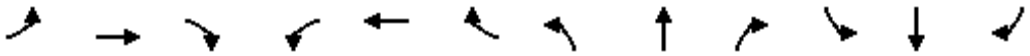


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	202	63	0	0	0	0	29	33	37	32	0
Future Volume (vph)	35	202	63	0	0	0	0	29	33	37	32	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	16	16	16	12	12	12	12	12	12	12	12	12
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		0.972						0.929				
Flt Protected		0.994									0.974	
Satd. Flow (prot)	0	2040	0	0	0	0	0	1730	0	0	1814	0
Flt Permitted		0.994									0.974	
Satd. Flow (perm)	0	2040	0	0	0	0	0	1730	0	0	1814	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		254			533			222			499	
Travel Time (s)		5.8			12.1			5.0			11.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	38	220	68	0	0	0	0	32	36	40	35	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	326	0	0	0	0	0	68	0	0	75	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	0.85	0.85	0.85	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
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 33.5%		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)	21	801	55	320	778	248	34	90	272	0	0	0
Future Volume (vph)	21	801	55	320	778	248	34	90	272	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	12	12	12	16	16	16	12	12	12
Grade (%)		7%			0%			0%			0%	
Storage Length (ft)	360		0	180		0	0		0	0		0
Storage Lanes	1		0	1		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.990				0.850		0.907				
Flt Protected	0.950			0.950				0.996				
Satd. Flow (prot)	1651	4858	0	1770	5085	1526	0	1621	0	0	0	0
Flt Permitted	0.271			0.214				0.996				
Satd. Flow (perm)	471	4858	0	399	5085	1526	0	1621	0	0	0	0
Right Turn on Red			Yes			No			No			Yes
Satd. Flow (RTOR)		11										
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		838			378			724			411	
Travel Time (s)		19.0			8.6			16.5			9.3	
Peak Hour Factor	0.89	0.89	0.89	0.95	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.92
Bus Blockages (#/hr)	0	0	0	0	0	9	0	0	0	0	0	0
Parking (#/hr)								10				
Adj. Flow (vph)	24	900	62	337	819	261	37	98	296	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	24	962	0	337	819	261	0	431	0	0	0	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)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.09	1.05	1.05	1.00	1.00	1.05	0.85	1.05	0.85	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2				
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru				
Leading Detector (ft)	20	100		20	100	20	20	100				
Trailing Detector (ft)	0	0		0	0	0	0	0				
Detector 1 Position(ft)	0	0		0	0	0	0	0				
Detector 1 Size(ft)	20	6		20	6	20	20	6				
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex				
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0				
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0				
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0				
Detector 2 Position(ft)		94			94			94				
Detector 2 Size(ft)		6			6			6				
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				
Detector 2 Channel												



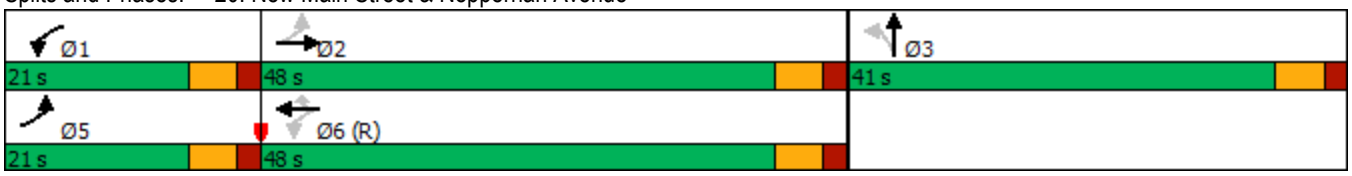
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0				
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA				
Protected Phases	5	2		1	6			3				
Permitted Phases	2			6		6	3					
Detector Phase	5	2		1	6	6	3	3				
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0				
Minimum Split (s)	11.0	46.0		11.0	46.0	46.0	40.0	40.0				
Total Split (s)	21.0	48.0		21.0	48.0	48.0	41.0	41.0				
Total Split (%)	19.1%	43.6%		19.1%	43.6%	43.6%	37.3%	37.3%				
Maximum Green (s)	15.0	42.0		15.0	42.0	42.0	35.0	35.0				
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0				
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0				
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0				
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0		6.0				
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0				
Recall Mode	Max	Ped		Max	C-Max	C-Max	Ped	Ped				
Walk Time (s)		20.0			20.0	20.0	7.0	7.0				
Flash Dont Walk (s)		20.0			20.0	20.0	27.0	27.0				
Pedestrian Calls (#/hr)		0			0	0	0	0				
Act Effct Green (s)	57.4	42.0		57.4	42.0	42.0		34.6				
Actuated g/C Ratio	0.52	0.38		0.52	0.38	0.38		0.31				
v/c Ratio	0.06	0.52		0.84	0.42	0.45		0.85				
Control Delay	4.5	8.4		59.1	8.4	10.0		51.9				
Queue Delay	0.0	0.0		0.0	0.2	0.3		0.0				
Total Delay	4.5	8.4		59.1	8.6	10.3		51.9				
LOS	A	A		E	A	B		D				
Approach Delay		8.3			20.9			51.9				
Approach LOS		A			C			D				
Queue Length 50th (ft)	2	47		162	32	28		281				
Queue Length 95th (ft)	m4	73		#285	41	43		#449				
Internal Link Dist (ft)		758			298			644			331	
Turn Bay Length (ft)	360			180								
Base Capacity (vph)	410	1861		399	1941	582		515				
Starvation Cap Reductn	0	0		0	340	71		0				
Spillback Cap Reductn	0	0		0	0	0		0				
Storage Cap Reductn	0	0		0	0	0		0				
Reduced v/c Ratio	0.06	0.52		0.84	0.51	0.51		0.84				

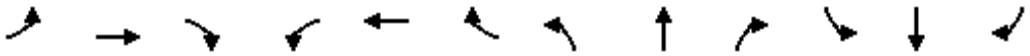
Intersection Summary	
Area Type:	Other
Cycle Length: 110	
Actuated Cycle Length: 110	
Offset: 10 (9%), Referenced to phase 6:WBTL, Start of Green	
Natural Cycle: 100	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.85	

Intersection Signal Delay: 21.3	Intersection LOS: C
Intersection Capacity Utilization 72.8%	ICU Level of Service C
Analysis Period (min) 15	

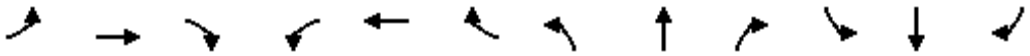
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 20: New Main Street & Nepperhan Avenue





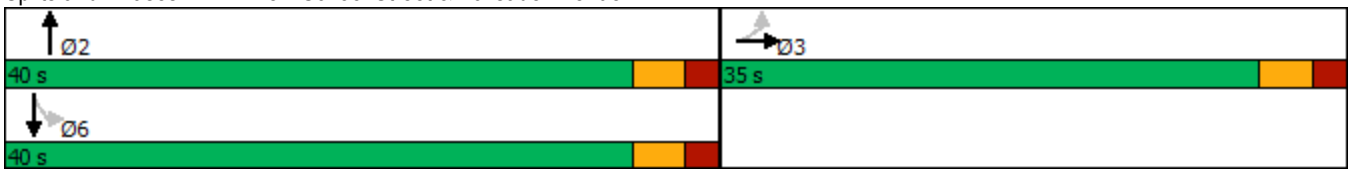
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	84	150	38	0	0	0	0	105	62	69	103	0
Future Volume (vph)	84	150	38	0	0	0	0	105	62	69	103	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	16	16	16	12	12	12	16	16	16	16	16	16
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.981						0.950				
Flt Protected		0.985									0.980	
Satd. Flow (prot)	0	1734	0	0	0	0	0	2006	0	0	2019	0
Flt Permitted		0.985									0.827	
Satd. Flow (perm)	0	1734	0	0	0	0	0	2006	0	0	1704	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13						53				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		533			736			222			625	
Travel Time (s)		12.1			16.7			5.0			14.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	6	0
Parking (#/hr)		10										
Adj. Flow (vph)	91	163	41	0	0	0	0	114	67	75	112	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	295	0	0	0	0	0	181	0	0	187	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	0.85	1.05	0.85	1.00	1.00	1.00	0.85	0.85	0.85	0.85	0.88	0.85
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2						2		1	2	
Detector Template	Left	Thru						Thru		Left	Thru	
Leading Detector (ft)	20	100						100		20	100	
Trailing Detector (ft)	0	0						0		0	0	
Detector 1 Position(ft)	0	0						0		0	0	
Detector 1 Size(ft)	20	6						6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex						Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0						0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0						0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0						0.0		0.0	0.0	
Detector 2 Position(ft)		94						94			94	
Detector 2 Size(ft)		6						6			6	
Detector 2 Type		Cl+Ex						Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0						0.0			0.0	
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		3						2			6	
Permitted Phases	3									6		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	3	3						2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0						5.0		5.0	5.0	
Minimum Split (s)	34.0	34.0						39.0		10.0	10.0	
Total Split (s)	35.0	35.0						40.0		40.0	40.0	
Total Split (%)	46.7%	46.7%						53.3%		53.3%	53.3%	
Maximum Green (s)	30.0	30.0						35.0		35.0	35.0	
Yellow Time (s)	3.0	3.0						3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0						2.0		2.0	2.0	
Lost Time Adjust (s)		0.0						0.0			0.0	
Total Lost Time (s)		5.0						5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0						3.0		3.0	3.0	
Recall Mode	Ped	Ped						Ped		Max	Max	
Walk Time (s)	9.0	9.0						14.0				
Flash Dont Walk (s)	20.0	20.0						20.0				
Pedestrian Calls (#/hr)	0	0						0				
Act Effct Green (s)		29.0						35.0			35.0	
Actuated g/C Ratio		0.39						0.47			0.47	
v/c Ratio		0.43						0.19			0.23	
Control Delay		18.1						8.4			12.5	
Queue Delay		0.0						0.0			0.0	
Total Delay		18.1						8.4			12.5	
LOS		B						A			B	
Approach Delay		18.1						8.4			12.5	
Approach LOS		B						A			B	
Queue Length 50th (ft)		92						31			48	
Queue Length 95th (ft)		156						65			87	
Internal Link Dist (ft)		453			656			142			545	
Turn Bay Length (ft)												
Base Capacity (vph)		710						976			805	
Starvation Cap Reductn		0						0			0	
Spillback Cap Reductn		0						0			0	
Storage Cap Reductn		0						0			0	
Reduced v/c Ratio		0.42						0.19			0.23	

Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 74			
Natural Cycle: 75			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.43			
Intersection Signal Delay: 13.9		Intersection LOS: B	
Intersection Capacity Utilization 45.9%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 22: New School Street & Palisade Avenue



Lane Group	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	SBL2	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	81	932	56	4	21	37	1250	122	16	16	11	96
Future Volume (vph)	81	932	56	4	21	37	1250	122	16	16	11	96
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	12	12	11	12	11	16	16	16	16
Grade (%)		0%					-5%				0%	
Storage Length (ft)	100		0			210		0		0		0
Storage Lanes	1		0			1		1		0		0
Taper Length (ft)	25					25				25		
Lane Util. Factor	1.00	0.91	0.91	0.91	0.91	1.00	0.91	1.00	1.00	1.00	1.00	1.00
Frt		0.991						0.850			0.906	
Flt Protected	0.950					0.950					0.989	
Satd. Flow (prot)	1711	5040	0	0	0	1753	5212	1569	0	0	1892	0
Flt Permitted	0.116					0.170					0.989	
Satd. Flow (perm)	209	5040	0	0	0	314	5212	1569	0	0	1892	0
Right Turn on Red				Yes				Yes				Yes
Satd. Flow (RTOR)		1						128			104	
Link Speed (mph)		30					30				30	
Link Distance (ft)		378					492				509	
Travel Time (s)		8.6					11.2				11.6	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.95	0.95	0.95	0.95	0.92	0.92	0.92	0.92
Adj. Flow (vph)	91	1047	63	4	22	39	1316	128	17	17	12	104
Shared Lane Traffic (%)												
Lane Group Flow (vph)	91	1114	0	0	0	61	1316	128	0	0	150	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Right	Left	Left	Left	Right	Left	Left	Left	Right
Median Width(ft)		12					12				0	
Link Offset(ft)		0					0				0	
Crosswalk Width(ft)		16					16				16	
Two way Left Turn Lane												
Headway Factor	1.04	1.00	1.00	1.00	0.97	1.01	0.97	1.01	0.85	0.85	0.85	0.85
Turning Speed (mph)	15		9	9	15	15		9	15	15		9
Number of Detectors	1	2			1	1	2	1	1	1	2	
Detector Template	Left	Thru			Left	Left	Thru	Right	Left	Left	Thru	
Leading Detector (ft)	20	100			20	20	100	20	20	20	100	
Trailing Detector (ft)	0	0			0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0			0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6			20	20	6	20	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94					94				94	
Detector 2 Size(ft)		6					6				6	
Detector 2 Type		Cl+Ex					Cl+Ex				Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0					0.0				0.0	
Turn Type	pm+pt	NA				pm+pt	NA	Perm		Perm	NA	

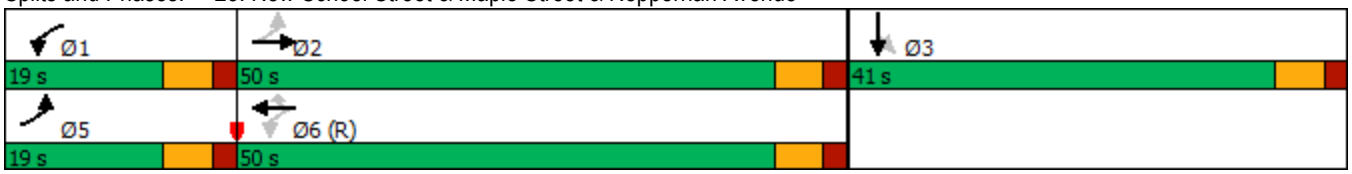
Lane Group	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	SBL2	SBL	SBT	SBR
Protected Phases	5	2				1	6				3	
Permitted Phases	2					6		6		3		
Detector Phase	5	2				1	6	6		3	3	
Switch Phase												
Minimum Initial (s)	5.0	5.0				5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	11.0	46.0				11.0	46.0	46.0		40.0	40.0	
Total Split (s)	19.0	50.0				19.0	50.0	50.0		41.0	41.0	
Total Split (%)	17.3%	45.5%				17.3%	45.5%	45.5%		37.3%	37.3%	
Maximum Green (s)	13.0	44.0				13.0	44.0	44.0		35.0	35.0	
Yellow Time (s)	4.0	4.0				4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0				2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0				0.0	0.0	0.0			0.0	
Total Lost Time (s)	6.0	6.0				6.0	6.0	6.0			6.0	
Lead/Lag	Lead	Lag				Lead	Lag	Lag				
Lead-Lag Optimize?	Yes	Yes				Yes	Yes	Yes				
Vehicle Extension (s)	3.0	3.0				3.0	3.0	3.0		3.0	3.0	
Recall Mode	Max	Ped				Max	C-Max	C-Max		Ped	Ped	
Walk Time (s)		20.0					20.0	20.0		7.0	7.0	
Flash Dont Walk (s)		20.0					20.0	20.0		27.0	27.0	
Pedestrian Calls (#/hr)		0					0	0		0	0	
Act Effct Green (s)	58.0	44.0				58.0	44.0	44.0			34.0	
Actuated g/C Ratio	0.53	0.40				0.53	0.40	0.40			0.31	
v/c Ratio	0.30	0.55				0.18	0.63	0.18			0.23	
Control Delay	18.1	13.5				11.4	28.2	4.4			11.0	
Queue Delay	0.0	0.1				0.0	0.0	0.0			0.0	
Total Delay	18.1	13.6				11.4	28.2	4.4			11.0	
LOS	B	B				B	C	A			B	
Approach Delay		14.0					25.5				11.0	
Approach LOS		B					C				B	
Queue Length 50th (ft)	21	80				18	268	0			23	
Queue Length 95th (ft)	m59	119				36	318	37			71	
Internal Link Dist (ft)		298					412				429	
Turn Bay Length (ft)	100					210						
Base Capacity (vph)	301	2016				348	2084	704			672	
Starvation Cap Reductn	0	157				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	0.30	0.60				0.18	0.63	0.18			0.22	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 10 (9%), Referenced to phase 6:WBTL, Start of Green			
Natural Cycle: 100			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.63			
Intersection Signal Delay: 19.9		Intersection LOS: B	
Intersection Capacity Utilization 51.9%		ICU Level of Service A	

Analysis Period (min) 15

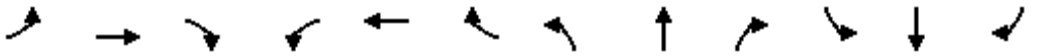
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 23: New School Street & Maple Street & Nepperhan Avenue

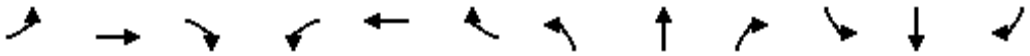


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	948	0	1	1392	38	119
Future Volume (vph)	948	0	1	1392	38	119
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	15	15	15
Grade (%)	5%			-5%	0%	
Storage Length (ft)		0	120		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			25		25	
Lane Util. Factor	0.91	0.91	1.00	0.91	1.00	1.00
Frt					0.898	
Flt Protected			0.950		0.988	
Satd. Flow (prot)	4752	0	1814	5703	1818	0
Flt Permitted			0.950		0.988	
Satd. Flow (perm)	4752	0	1814	5703	1818	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	492			401	154	
Travel Time (s)	11.2			9.1	3.5	
Peak Hour Factor	0.89	0.89	0.95	0.95	0.92	0.92
Bus Blockages (#/hr)	0	0	0	4	0	0
Parking (#/hr)	5					
Adj. Flow (vph)	1065	0	1	1465	41	129
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1065	0	1	1465	170	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	15	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.09	1.03	0.97	0.86	0.88	0.88
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 43.0%		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)	198	62	21	176	0	39	0	985	82	64	1196	0
Future Volume (vph)	198	62	21	176	0	39	0	985	82	64	1196	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	16	16	16	12	12	12	11	12	12
Grade (%)		0%			0%			5%			0%	
Storage Length (ft)	0		0	0		0	0		0	140		0
Storage Lanes	1		0	0		0	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	1.00
Frt		0.962			0.976			0.988				
Flt Protected	0.950				0.961					0.950		
Satd. Flow (prot)	1454	1732	0	0	1733	0	0	4899	0	1711	5085	0
Flt Permitted	0.660				0.704					0.108		
Satd. Flow (perm)	1010	1732	0	0	1269	0	0	4899	0	194	5085	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16			89			14				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		736			401			401			583	
Travel Time (s)		16.7			9.1			9.1			13.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.89	0.89	0.89	0.95	0.95	0.95
Parking (#/hr)	10				5							
Adj. Flow (vph)	215	67	23	191	0	42	0	1107	92	67	1259	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	215	90	0	0	233	0	0	1199	0	67	1259	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)		11			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.28	1.04	1.04	0.85	1.01	0.85	1.03	1.03	1.03	1.04	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2			2		1	2	
Detector Template	Left	Thru		Left	Thru			Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100			100		20	100	
Trailing Detector (ft)	0	0		0	0			0		0	0	
Detector 1 Position(ft)	0	0		0	0			0		0	0	
Detector 1 Size(ft)	20	6		20	6			6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA			NA		pm+pt	NA	
Protected Phases		3			3			2		1	6	
Permitted Phases	3			3						6		
Detector Phase	3	3		3	3			2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0			5.0		5.0	5.0	
Minimum Split (s)	40.0	40.0		40.0	40.0			39.0		11.0	39.0	
Total Split (s)	41.0	41.0		41.0	41.0			48.0		21.0	69.0	
Total Split (%)	37.3%	37.3%		37.3%	37.3%			43.6%		19.1%	62.7%	
Maximum Green (s)	35.0	35.0		35.0	35.0			42.0		15.0	63.0	
Yellow Time (s)	4.0	4.0		4.0	4.0			4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0			2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0			0.0			0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0			6.0			6.0		6.0	6.0	
Lead/Lag								Lag		Lead		
Lead-Lag Optimize?								Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Recall Mode	Ped	Ped		Ped	Ped			Ped		Max	Ped	
Walk Time (s)	7.0	7.0		7.0	7.0			20.0			20.0	
Flash Dont Walk (s)	27.0	27.0		27.0	27.0			13.0			13.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	34.2	34.2			34.2			36.1		57.2	57.2	
Actuated g/C Ratio	0.33	0.33			0.33			0.35		0.55	0.55	
v/c Ratio	0.64	0.15			0.49			0.70		0.20	0.45	
Control Delay	40.7	21.7			21.1			31.0		12.2	14.3	
Queue Delay	0.0	0.0			0.0			0.0		0.0	0.0	
Total Delay	40.7	21.7			21.1			31.0		12.2	14.3	
LOS	D	C			C			C		B	B	
Approach Delay		35.1			21.1			31.0			14.2	
Approach LOS		D			C			C			B	
Queue Length 50th (ft)	117	33			71			243		19	170	
Queue Length 95th (ft)	222	76			158			292		40	208	
Internal Link Dist (ft)		656			321			321			503	
Turn Bay Length (ft)										140		
Base Capacity (vph)	342	597			489			2000		327	3101	
Starvation Cap Reductn	0	0			0			0		0	0	
Spillback Cap Reductn	0	0			0			0		0	0	
Storage Cap Reductn	0	0			0			0		0	0	
Reduced v/c Ratio	0.63	0.15			0.48			0.60		0.20	0.41	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 103.4			
Natural Cycle: 90			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.70			
Intersection Signal Delay: 23.4		Intersection LOS: C	
Intersection Capacity Utilization 58.8%		ICU Level of Service B	

Analysis Period (min) 15

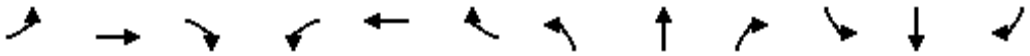
Splits and Phases: 27: Nepperhan Avenue & Elm Street

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	334	63	87	287	104	0	0	0	0	0	0
Future Volume (vph)	15	334	63	87	287	104	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	16	16	16	16	16	16	16	16	16	16	16	16
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.977			0.960							
Flt Protected		0.998		0.950								
Satd. Flow (prot)	0	3911	0	2006	2027	0	0	0	0	0	0	0
Flt Permitted		0.998		0.950								
Satd. Flow (perm)	0	3911	0	2006	2027	0	0	0	0	0	0	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		256			511			286			516	
Travel Time (s)		5.8			11.6			6.5			11.7	
Peak Hour Factor	0.90	0.90	0.90	0.81	0.81	0.81	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	17	371	70	107	354	128	0	0	0	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	458	0	107	482	0	0	0	0	0	0	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)		12			24			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 39.8%		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)	0	0	0	0	369	57	32	243	0	0	0	0
Future Volume (vph)	0	0	0	0	369	57	32	243	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	16	16	16	16	16	16	12	12	12
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					0.982							
Flt Protected								0.994				
Satd. Flow (prot)	0	0	0	0	2073	0	0	1981	0	0	0	0
Flt Permitted								0.994				
Satd. Flow (perm)	0	0	0	0	2073	0	0	1981	0	0	0	0
Right Turn on Red			Yes			No			No			Yes
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		81			430			212			254	
Travel Time (s)		1.8			9.8			4.8			5.8	
Peak Hour Factor	0.92	0.92	0.92	0.83	0.83	0.83	0.92	0.92	0.92	0.92	0.92	0.92
Bus Blockages (#/hr)	0	0	0	0	0	0	0	14	0	0	0	0
Adj. Flow (vph)	0	0	0	0	445	69	35	264	0	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	514	0	0	299	0	0	0	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	0.85	0.85	0.85	0.85	0.92	0.85	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors					2		1	2				
Detector Template					Thru		Left	Thru				
Leading Detector (ft)					100		20	100				
Trailing Detector (ft)					0		0	0				
Detector 1 Position(ft)					0		0	0				
Detector 1 Size(ft)					6		20	6				
Detector 1 Type					Cl+Ex		Cl+Ex	Cl+Ex				
Detector 1 Channel												
Detector 1 Extend (s)					0.0		0.0	0.0				
Detector 1 Queue (s)					0.0		0.0	0.0				
Detector 1 Delay (s)					0.0		0.0	0.0				
Detector 2 Position(ft)					94			94				
Detector 2 Size(ft)					6			6				
Detector 2 Type					Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0				
Turn Type					NA		Perm	NA				
Protected Phases					1			3				
Permitted Phases							3					
Detector Phase					1		3	3				

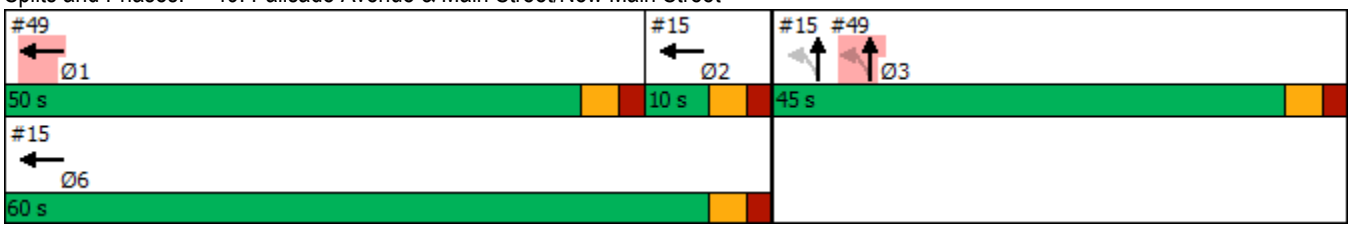
Lane Group	Ø2	Ø6
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Lane Width (ft)		
Lane Util. Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Peak Hour Factor		
Bus Blockages (#/hr)		
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)		
Number of Detectors		
Detector Template		
Leading Detector (ft)		
Trailing Detector (ft)		
Detector 1 Position(ft)		
Detector 1 Size(ft)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Detector 2 Position(ft)		
Detector 2 Size(ft)		
Detector 2 Type		
Detector 2 Channel		
Detector 2 Extend (s)		
Turn Type		
Protected Phases	2	6
Permitted Phases		
Detector Phase		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)					5.0		5.0	5.0				
Minimum Split (s)					50.0		45.0	45.0				
Total Split (s)					50.0		45.0	45.0				
Total Split (%)					47.6%		42.9%	42.9%				
Maximum Green (s)					45.0		40.0	40.0				
Yellow Time (s)					3.0		3.0	3.0				
All-Red Time (s)					2.0		2.0	2.0				
Lost Time Adjust (s)					0.0			0.0				
Total Lost Time (s)					5.0			5.0				
Lead/Lag					Lead							
Lead-Lag Optimize?					Yes							
Vehicle Extension (s)					3.0		3.0	3.0				
Recall Mode					Ped		Ped	Ped				
Walk Time (s)					35.0		30.0	30.0				
Flash Dont Walk (s)					10.0		10.0	10.0				
Pedestrian Calls (#/hr)					0		0	0				
Act Effct Green (s)					45.0			40.0				
Actuated g/C Ratio					0.43			0.38				
v/c Ratio					0.58			0.40				
Control Delay					26.0			25.7				
Queue Delay					0.0			0.0				
Total Delay					26.0			25.7				
LOS					C			C				
Approach Delay					26.0			25.7				
Approach LOS					C			C				
Queue Length 50th (ft)					256			144				
Queue Length 95th (ft)					323			218				
Internal Link Dist (ft)		1			350			132			174	
Turn Bay Length (ft)												
Base Capacity (vph)					888			754				
Starvation Cap Reductn					0			0				
Spillback Cap Reductn					0			0				
Storage Cap Reductn					0			0				
Reduced v/c Ratio					0.58			0.40				

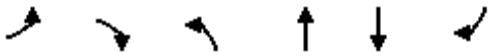
Intersection Summary			
Area Type:	Other		
Cycle Length: 105			
Actuated Cycle Length: 105			
Natural Cycle: 105			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.58			
Intersection Signal Delay: 25.9		Intersection LOS: C	
Intersection Capacity Utilization 45.8%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 49: Palisade Avenue & Main Street/New Main Street



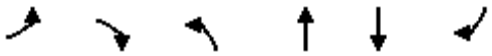
Lane Group	Ø2	Ø6
Switch Phase		
Minimum Initial (s)	2.0	5.0
Minimum Split (s)	7.0	10.0
Total Split (s)	10.0	60.0
Total Split (%)	10%	57%
Maximum Green (s)	5.0	55.0
Yellow Time (s)	3.0	3.0
All-Red Time (s)	2.0	2.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lag	
Lead-Lag Optimize?	Yes	
Vehicle Extension (s)	3.0	3.0
Recall Mode	Max	Max
Walk Time (s)		
Flash Dont Walk (s)		
Pedestrian Calls (#/hr)		
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		

Intersection Summary



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	64	69	0
Future Volume (vph)	0	0	0	64	69	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	1863	0	0	1863	1863	0
Flt Permitted						
Satd. Flow (perm)	1863	0	0	1863	1863	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	126			499	747	
Travel Time (s)	2.9			11.3	17.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	70	75	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	70	75	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			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)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 7.0%		ICU Level of Service A	
Analysis Period (min) 15			



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	297	346	0
Future Volume (vph)	0	0	0	297	346	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	1863	0	0	1863	1863	0
Flt Permitted						
Satd. Flow (perm)	1863	0	0	1863	1863	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	172			284	235	
Travel Time (s)	3.9			6.5	5.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	323	376	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	323	376	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			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)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 21.5%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	80	9	38	94	0	25	0	21	7	0	6
Future Vol, veh/h	0	80	9	38	94	0	25	0	21	7	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	86	86	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	8	8	6	6	2	2	2	2	2	2	2
Mvmt Flow	0	93	10	41	102	0	27	0	23	8	0	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	103	0	0	286	-	98	294	287	102
Stage 1	-	-	-	-	-	-	98	-	-	184	184	-
Stage 2	-	-	-	-	-	-	188	-	-	110	103	-
Critical Hdwy	-	-	-	4.16	-	-	7.12	-	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	-	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	-	-	6.12	5.52	-
Follow-up Hdwy	-	-	-	2.254	-	-	3.518	-	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	0	-	-	1464	-	0	666	0	958	658	623	953
Stage 1	0	-	-	-	-	0	908	0	-	818	747	-
Stage 2	0	-	-	-	-	0	814	0	-	895	810	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	1464	-	-	646	-	958	628	604	953
Mov Cap-2 Maneuver	-	-	-	-	-	-	646	-	-	628	604	-
Stage 1	-	-	-	-	-	-	908	-	-	818	725	-
Stage 2	-	-	-	-	-	-	784	-	-	874	810	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	2.2	10.1	9.9
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	759	-	-	1464	-	745
HCM Lane V/C Ratio	0.066	-	-	0.028	-	0.019
HCM Control Delay (s)	10.1	-	-	7.5	0	9.9
HCM Lane LOS	B	-	-	A	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-	0.1

Intersection	
Int Delay, s/veh	8.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	15	0	0	0	0	34	38	47	17	0	30
Future Vol, veh/h	8	15	0	0	0	0	34	38	47	17	0	30
Conflicting Peds, #/hr	0	0	33	0	0	35	0	0	16	0	0	38
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	92	92	92	83	83	83	90	90	90
Heavy Vehicles, %	10	10	10	2	2	2	7	7	7	2	2	2
Mvmt Flow	9	18	0	0	0	0	41	46	57	19	0	33

Major/Minor	Major1			Minor1			Minor2		
Conflicting Flow All	0	0	-	91	36	34	104	36	38
Stage 1	-	-	-	36	36	-	0	0	-
Stage 2	-	-	-	55	0	-	104	36	-
Critical Hdwy	4.2	-	-	7.17	6.57	6.27	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	6.17	5.57	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-
Follow-up Hdwy	2.29	-	-	3.563	4.063	3.363	3.518	4.018	3.318
Pot Cap-1 Maneuver	-	-	0	881	847	1025	876	856	1034
Stage 1	-	-	0	967	855	-	-	-	-
Stage 2	-	-	0	-	-	-	902	865	-
Platoon blocked, %		-							
Mov Cap-1 Maneuver	-	-	-	824	847	1025	794	856	1000
Mov Cap-2 Maneuver	-	-	-	824	847	-	794	856	-
Stage 1	-	-	-	967	855	-	-	-	-
Stage 2	-	-	-	-	-	-	807	865	-

Approach	EB	NB	SB
HCM Control Delay, s		9.7	9.2
HCM LOS		A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	SBLn1
Capacity (veh/h)	902	-	-	914
HCM Lane V/C Ratio	0.159	-	-	0.057
HCM Control Delay (s)	9.7	-	-	9.2
HCM Lane LOS	A	-	-	A
HCM 95th %tile Q(veh)	0.6	-	-	0.2

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	104	0	0	326	0	0
Future Vol, veh/h	104	0	0	326	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	16979	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	113	0	0	354	0	0

Major/Minor	Minor2		Major1	
Conflicting Flow All	354	-	-	0
Stage 1	0	-	-	-
Stage 2	354	-	-	-
Critical Hdwy	6.42	-	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-
Follow-up Hdwy	3.518	-	-	-
Pot Cap-1 Maneuver	644	0	0	-
Stage 1	-	0	0	-
Stage 2	710	0	0	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	644	-	-	-
Mov Cap-2 Maneuver	644	-	-	-
Stage 1	-	-	-	-
Stage 2	710	-	-	-

Approach	EB	NB
HCM Control Delay, s	11.8	0
HCM LOS	B	

Minor Lane/Major Mvmt	NBT	EBLn1
Capacity (veh/h)	-	644
HCM Lane V/C Ratio	-	0.176
HCM Control Delay (s)	-	11.8
HCM Lane LOS	-	B
HCM 95th %tile Q(veh)	-	0.6

Intersection	
Int Delay, s/veh	2.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	948	0	1	1392	38	119
Future Vol, veh/h	948	0	1	1392	38	119
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	120	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	5	-	-	-5	0	-
Peak Hour Factor	89	89	95	95	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1065	0	1	1465	41	129

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1065	0	1653	533
Stage 1	-	-	-	-	1065	-
Stage 2	-	-	-	-	588	-
Critical Hdwy	-	-	5.34	-	5.74	7.14
Critical Hdwy Stg 1	-	-	-	-	6.64	-
Critical Hdwy Stg 2	-	-	-	-	6.04	-
Follow-up Hdwy	-	-	3.12	-	3.82	3.92
Pot Cap-1 Maneuver	-	-	364	-	143	421
Stage 1	-	-	-	-	221	-
Stage 2	-	-	-	-	472	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	364	-	143	421
Mov Cap-2 Maneuver	-	-	-	-	143	-
Stage 1	-	-	-	-	221	-
Stage 2	-	-	-	-	471	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	34.6
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	286	-	-	364	-
HCM Lane V/C Ratio	0.597	-	-	0.003	-
HCM Control Delay (s)	34.6	-	-	14.9	-
HCM Lane LOS	D	-	-	B	-
HCM 95th %tile Q(veh)	3.6	-	-	0	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	64	69	0
Future Vol, veh/h	0	0	0	64	69	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	70	75	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	145	75	75	0	-	0
Stage 1	75	-	-	-	-	-
Stage 2	70	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	847	986	1524	-	-	-
Stage 1	948	-	-	-	-	-
Stage 2	953	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	847	986	1524	-	-	-
Mov Cap-2 Maneuver	847	-	-	-	-	-
Stage 1	948	-	-	-	-	-
Stage 2	953	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1524	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	297	346	0
Future Vol, veh/h	0	0	0	297	346	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	323	376	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	699	376	376	0	-	0
Stage 1	376	-	-	-	-	-
Stage 2	323	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	406	670	1182	-	-	-
Stage 1	694	-	-	-	-	-
Stage 2	734	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	406	670	1182	-	-	-
Mov Cap-2 Maneuver	406	-	-	-	-	-
Stage 1	694	-	-	-	-	-
Stage 2	734	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1182	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Intersection Delay, s/veh	11.5
Intersection LOS	B

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	55	9	284	13	10	291
Future Vol, veh/h	55	9	284	13	10	291
Peak Hour Factor	0.91	0.91	0.82	0.82	0.87	0.87
Heavy Vehicles, %	3	3	17	17	7	7
Mvmt Flow	60	10	346	16	11	334
Number of Lanes	1	0	1	0	0	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	1	0
HCM Control Delay	9.4	12	11.3
HCM LOS	A	B	B

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	0%	86%	3%
Vol Thru, %	96%	0%	97%
Vol Right, %	4%	14%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	297	64	301
LT Vol	0	55	10
Through Vol	284	0	291
RT Vol	13	9	0
Lane Flow Rate	362	70	346
Geometry Grp	1	1	1
Degree of Util (X)	0.477	0.11	0.445
Departure Headway (Hd)	4.738	5.632	4.629
Convergence, Y/N	Yes	Yes	Yes
Cap	761	633	778
Service Time	2.773	3.696	2.663
HCM Lane V/C Ratio	0.476	0.111	0.445
HCM Control Delay	12	9.4	11.3
HCM Lane LOS	B	A	B
HCM 95th-tile Q	2.6	0.4	2.3

Intersection	
Intersection Delay, s/veh	14.3
Intersection LOS	B

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	83	204	93	137	275	71
Future Vol, veh/h	83	204	93	137	275	71
Peak Hour Factor	0.81	0.81	0.82	0.82	0.87	0.87
Heavy Vehicles, %	14	14	13	13	6	6
Mvmt Flow	102	252	113	167	316	82
Number of Lanes	1	1	1	0	0	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	2	0
HCM Control Delay	12.3	12.4	17.4
HCM LOS	B	B	C

Lane	NBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	0%	100%	0%	79%
Vol Thru, %	40%	0%	0%	21%
Vol Right, %	60%	0%	100%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	230	83	204	346
LT Vol	0	83	0	275
Through Vol	93	0	0	71
RT Vol	137	0	204	0
Lane Flow Rate	280	102	252	398
Geometry Grp	2	7	7	2
Degree of Util (X)	0.422	0.201	0.409	0.62
Departure Headway (Hd)	5.413	7.072	5.853	5.608
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	665	507	615	644
Service Time	3.454	4.816	3.596	3.645
HCM Lane V/C Ratio	0.421	0.201	0.41	0.618
HCM Control Delay	12.4	11.6	12.6	17.4
HCM Lane LOS	B	B	B	C
HCM 95th-tile Q	2.1	0.7	2	4.3

Intersection	
Intersection Delay, s/veh	14.1
Intersection LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	262	173	0	296	0	0
Future Vol, veh/h	262	173	0	296	0	0
Peak Hour Factor	0.97	0.97	0.87	0.87	0.92	0.92
Heavy Vehicles, %	11	2	11	4	2	2
Mvmt Flow	270	178	0	340	0	0
Number of Lanes	1	0	0	1	0	0

Approach	EB	NB
Opposing Approach		
Opposing Lanes	0	0
Conflicting Approach Left		EB
Conflicting Lanes Left	0	1
Conflicting Approach Right	NB	
Conflicting Lanes Right	1	0
HCM Control Delay	15.1	12.8
HCM LOS	C	B

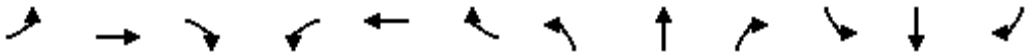
Lane	NBLn1	EBLn1
Vol Left, %	0%	60%
Vol Thru, %	100%	0%
Vol Right, %	0%	40%
Sign Control	Stop	Stop
Traffic Vol by Lane	296	435
LT Vol	0	262
Through Vol	296	0
RT Vol	0	173
Lane Flow Rate	340	448
Geometry Grp	1	1
Degree of Util (X)	0.481	0.604
Departure Headway (Hd)	5.085	4.852
Convergence, Y/N	Yes	Yes
Cap	704	740
Service Time	3.156	2.915
HCM Lane V/C Ratio	0.483	0.605
HCM Control Delay	12.8	15.1
HCM Lane LOS	B	C
HCM 95th-tile Q	2.6	4.1

Intersection	
Intersection Delay, s/veh	9.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	35	202	63	0	0	0	0	29	33	37	32	0
Future Vol, veh/h	35	202	63	0	0	0	0	29	33	37	32	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	38	220	68	0	0	0	0	32	36	40	35	0
Number of Lanes	0	1	0	0	0	0	0	1	0	0	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	9.7	7.9	8.4
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	0%	12%	54%
Vol Thru, %	47%	67%	46%
Vol Right, %	53%	21%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	62	300	69
LT Vol	0	35	37
Through Vol	29	202	32
RT Vol	33	63	0
Lane Flow Rate	67	326	75
Geometry Grp	1	1	1
Degree of Util (X)	0.083	0.379	0.101
Departure Headway (Hd)	4.436	4.185	4.849
Convergence, Y/N	Yes	Yes	Yes
Cap	808	864	740
Service Time	2.46	2.185	2.872
HCM Lane V/C Ratio	0.083	0.377	0.101
HCM Control Delay	7.9	9.7	8.4
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.3	1.8	0.3



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	334	63	87	287	104	0	0	0	0	0	0
Future Volume (Veh/h)	15	334	63	87	287	104	0	0	0	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.81	0.81	0.81	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	17	371	70	107	354	128	0	0	0	0	0	0
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	305	0	0	256	0	0	0			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	305	0	0	256	0	0	0			0		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	96	59	94	76	60	88	100			100		
cM capacity (veh/h)	395	896	1085	442	896	1085	1623			1623		

Direction, Lane #	EB 1	EB 2	WB 1	WB 2
Volume Total	202	256	107	482
Volume Left	17	0	107	0
Volume Right	0	70	0	128
cSH	810	941	442	939
Volume to Capacity	0.25	0.27	0.24	0.51
Queue Length 95th (ft)	25	28	23	75
Control Delay (s)	10.9	10.2	15.7	12.8
Lane LOS	B	B	C	B
Approach Delay (s)	10.5		13.3	
Approach LOS	B		B	

Intersection Summary				
Average Delay	12.1			
Intersection Capacity Utilization	39.8%	ICU Level of Service	A	
Analysis Period (min)	15			